STIC Search Report
Biotech-Chem Library

STIC Database Tracking

TO: Everett White
Location:cm1 8B19
Art Unit: 1623
Thursday, May 29, 2003

Case Serial Number: 831419

From: Alex Waclawiw
Location: Biotech-Chem Library
CM1-6A02
Phone: 308-4491

Alexandra.waclawiw@uspto.gov

Search Notes

STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Questions about the scope or the results of the search? Contact ***the searcher or contact:***

Mary Hale, Information Branch Supervisor
308-4258, CM1-1E01

Voluntary Results Feedback Fo

- *I am an examiner in Workgroup:* ☐ *Example: 1610*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

  Types of relevant prior art found:
  - ☐ Foreign Patent(s)
  - ☐ Non-Patent Literature
    (journal articles, conference proceedings, new product announcements etc.)
- *Relevant prior art **not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Drop off or send completed forms to STIC/Biotech-Chem Library CM1 – Circ. Desk

=> d his

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     (FILE 'REGISTRY' ENTERED AT 11:25:46 ON 29 MAY 2003)
                DEL HIS Y
                ACT WHITE/A
               ---------
L1               STR
L2          11999 SEA FILE=REGISTRY SSS FUL L1
               ---------
                E CHITOSAN/CN
L3              1 S E3
L4            750 S 9012-76-4/CRN
L5              1 S L4 AND L2
L6              1 S LACTOSE/CN
                E MALTOSE/CN
L7              2 S E3
                E MELIBIOSE/CN
L8              2 S E3
                E CELLOBIOSE/CN
L9              1 S E3
                E LAMINARIBIOSE/CN
L10             1 S E3
                E MANNOBIOSE/CN
L11             1 S E3
L12             8 S L6-L11
L13             0 S L12 AND L4
                E GLYCOSAMINOGLYCAN/CN
                E GLYCOSAMINOGLYCANS/CN
                E GLYCOSAMINOGLYCAN/CN

     FILE 'HCAPLUS' ENTERED AT 11:28:47 ON 29 MAY 2003

     FILE 'REGISTRY' ENTERED AT 11:29:10 ON 29 MAY 2003

     FILE 'REGISTRY' ENTERED AT 11:30:28 ON 29 MAY 2003
                E CHITIN/CN
L14             1 S E3
L15           279 S 1398-61-4/CRN
L16             0 S L15 AND L2
L17             0 S L15 AND L12

     FILE 'HCAPLUS' ENTERED AT 11:31:25 ON 29 MAY 2003
L18             1 S L5
L19         15863 S L3 OR L14
L20         19529 S L19 OR CHITIN# OR CHITOSAN#
L21          2707 S L20 (L)(DERIV? OR DEACETYL?)
L22          8127 S PHOTOREACT? OR  PHOTO REACT?
L23             1 S L21(L) L22
L24             1 S L21 AND L22
L25        244478 S CARBOHYDRA? OR DISACCHARIDE# OR SACCHARIDE# OR MONOSACCHARIDE
L26             0 S L25 AND L21
L27             0 S L25 AND L12
L28             0 S L25 AND L4
L29             0 S L25 AND L3
```

L34 25 S L23 OR L24 OR L28 OR L30 OR L33

```
=> fil reg
FILE 'REGISTRY' ENTERED AT 11:37:46 ON 29 MAY 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   28 MAY 2003  HIGHEST RN 521913-14-4
DICTIONARY FILE UPDATES:  28 MAY 2003  HIGHEST RN 521913-14-4

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d que stat 2
'2' IS NOT VALID HERE

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L1                STR
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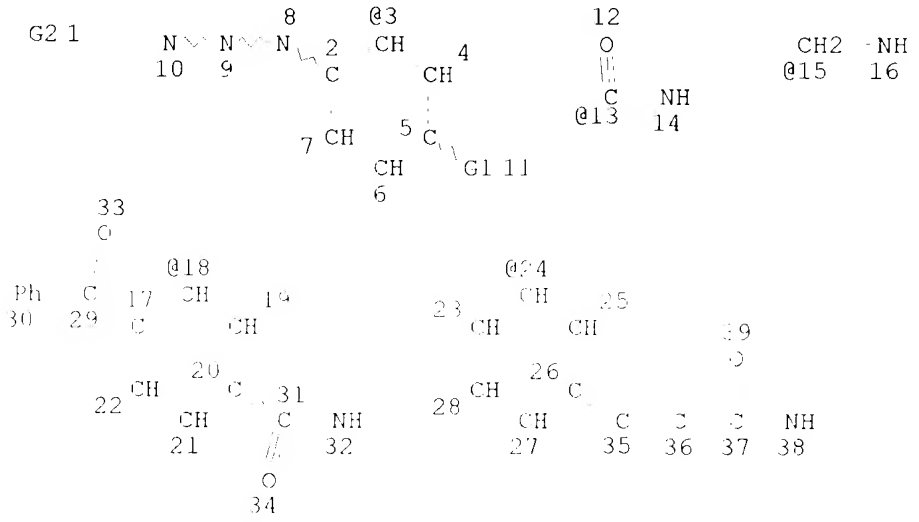

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GAME ATTRIBUTES:
DISPLAY
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NUMBER OF NODES IS 39

STEREO ATTRIBUTES: NONE
L2 11999 SEA FILE=REGISTRY SSS FUL L1

100.0% PROCESSED 173174 ITERATIONS 11999 ANSWERS
SEARCH TIME: 00.00.03

=> d que l3; d l3;d his l4
L3 1 SEA FILE=REGISTRY ABB=ON PLU=ON CHITOSAN/CN

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 9012-76-4 REGISTRY
CN **Chitosan (8CI, 9CI)** (CA INDEX NAME)
OTHER NAMES:
CN 100D-VL
CN BC 10
CN BC 10 (polysaccharide)
CN Biopolymer L 112
CN Chicol
CN Chitan, N-acetyl-
CN Chitin, N-deacetyl-
CN Chitofos
CN Chitopearl 3510
CN Chitopearl BC 3000
CN Chitopearl BCW 2500
CN Chitopearl BCW 3000
CN Chitopearl BCW 3500
CN Chitopearl BCW 3505
CN Chitopearl BCW 3507
CN Chitopearl K 20
CN Chitosan 500
CN Chitosan CLH
CN Chitosan EL
CN Chitosan F
CN Chitosan FL
CN Chitosan H
CN Chitosan LL
CN Chitosan LL 80
CN Chitosan LLWP
CN Chitosan M
CN Chitosan MP
CN Chitosan PSH
CN Chitosan SK 10
CN Chitosan VL

CN Daichitosan VL
CN Daichitosan W 10
CN Deacetylchitin
CN FCM 117
CN Flonac C
CN Flonac H
CN Flonac LV
CN Flonac N
CN HC 1
CN HC 1 (polysaccharide)
CN Hiset KW 5
CN Hydagan DCMF
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
DR 57285-05-9
MF Unspecified
CI PMS, COM, MAN
PCT Manual registration, Polyother, Polyother only
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, NAPRALERT, PHAR, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: NDSL**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
11371 REFERENCES IN FILE CA (1957 TO DATE)
2096 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
11422 REFERENCES IN FILE CAPLUS (1957 TO DATE)

(FILE 'REGISTRY' ENTERED AT 11:25:46 ON 29 MAY 2003)
L4 750 S 9012-76-4/CRN all structures with chitosan as a component

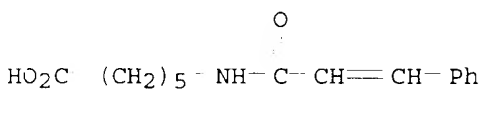
L5 1 S L4 AND L2

=> d 15

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 185824-26-4 REGISTRY
CN Chitosan, compd. with 6-[(1-oxo-3-phenyl-2-propenyl)amino]hexanoic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Hexanoic acid, 6-[(1-oxo-3-phenyl-2-propenyl)amino]-, compd. with chitosan (9CI)
OTHER NAMES:
CN Chitosan compd. with cinnamoyl-6-aminohexanoic acid
MF C15 H19 N O3 . x Unspecified
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

CM 1

CRN 78121-41-2
CMF C15 H19 N O3



CM 2

CRN 9012-76-4
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=> d que l12
L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON LACTOSE/CN
L7 2 SEA FILE=REGISTRY ABB=ON PLU=ON MALTOSE/CN
L8 2 SEA FILE=REGISTRY ABB=ON PLU=ON MELIBIOSE/CN
L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON CELLOBIOSE/CN
L10 1 SEA FILE=REGISTRY ABB=ON PLU=ON LAMINARIBIOSE/CN
L11 1 SEA FILE=REGISTRY ABB=ON PLU=ON MANNOBIOSE/CN
L12 8 SEA FILE=REGISTRY ABB=ON PLU=ON (L6 OR L7 OR L8 OR L9 OR L10 OR L11)

=> d l12 rn cn 1-8

Laminaribiose (8CI)
OTHER NAMES:
CN 3-O-.beta.-D-Glucopyranosyl-D-glucose

Page 5a

CN Laminariose

L12 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 16984-36-4 REGISTRY
CN D-Glucopyranose, 4-O-.alpha.-D-glucopyranosyl- (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Maltose**

L12 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 14417-51-7 REGISTRY
CN D-Mannose, 4-O-.beta.-D-mannopyranosyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Mannobiose (6CI, 7CI)**
CN Mannose, 4-O-.beta.-D-mannopyranosyl-, D- (8CI)
OTHER NAMES:
CN .beta.-1,4-Mannobiose
CN 4-O-.beta.-D-Mannopyranosyl-D-mannose

L12 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 5340-95-4 REGISTRY
CN D-Glucopyranose, 6-O-.alpha.-D-galactopyranosyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Melibiose**

L12 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 585-99-9 REGISTRY
CN D-Glucose, 6-O-.alpha.-D-galactopyranosyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Melibiose (8CI)**
OTHER NAMES:
CN D-Melibiose

L12 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 528-50-7 REGISTRY
CN D-Glucose, 4-O-.beta.-D-glucopyranosyl- (6CI, 9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Cellobiose (8CI)**
OTHER NAMES:
CN 4-(.beta.-D-Glucosido)-D-glucose
CN 4-Beta-D-Glucopyranosyl-D-glucopyranose
CN 4-O-.beta.-D-Glucopyranosyl-D-glucose
CN Cellose
CN D-(+)-Cellobiose
CN D-Cellobiose
CN D-Glucosyl-.beta.-(1.fwdarw.4)-D-glucose

L12 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 69-79-4 REGISTRY
CN D-Glucose, 4-O-.alpha.-D-glucopyranosyl- (6CI, 9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:

CN [illegible]
CN [illegible]
CN Fibrose
CN [illegible]

CN Malt sugar
CN Maltobiose
CN Maltodiose
CN **maltose**
CN Sunmalt
CN Sunmalt S

L12 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2003 ACS
RN 63-42-3 REGISTRY
CN D-Glucose, 4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Lactose (8CI)**
OTHER NAMES:
CN (+)-Lactose
CN AHL
CN Aletobiose
CN D-(+)-Lactose
CN Fast-flo
CN Fast-Flo Lactose
CN Galactinum
CN Lactin
CN Lactin (carbohydrate)
CN Lactobiose
CN Lactose anhydride
CN Lactose anhydrous
CN Lactose Fast-flo
CN Milk sugar
CN Nonpareil 107
CN Osmolactan
CN Pharmatose 21
CN Pharmatose 325M
CN Pharmatose 450M
CN Saccharum lactin
CN Tablettose
CN Tablettose 70
CN Zeparox EP

=> d his l13

(FILE 'REGISTRY' ENTERED AT 11:25:46 ON 29 MAY 2003)
L13 0 S L12 AND L4

=> d que l14;d l14;d his l15-l17
L14 1 SEA FILE=REGISTRY ABB=ON PLU=ON CHITIN/CN

L14 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

DR 9043-70-3, 191802-95-6
MF Unspecified
CI COM, MAN
LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, NAPRALERT, PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
6612 REFERENCES IN FILE CA (1957 TO DATE)
843 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
6628 REFERENCES IN FILE CAPLUS (1957 TO DATE)

(FILE 'REGISTRY' ENTERED AT 11:30:28 ON 29 MAY 2003)
L15 279 S 1398-61-4/CRN
L16 0 S L15 AND L2
L17 0 S L15 AND L12

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 11:39:16 ON 29 MAY 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 29 May 2003 VOL 138 ISS 22
FILE LAST UPDATED: 28 May 2003 (20030528/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

=> d his 118

```
L24             1 S L21 AND L22
L25        244478 S CARBOHYDRA? OR DISACCHARIDE# OR SACCHARIDE# OR MONOSACCHARIDE
L26            55 S L25 (L) L21
L27         39871 S L12 OR LACTOSE OR MALTOSE OR MELIBIOSE OR CELLOBIOSE OR LAMIN
L28            18 S L27 AND L26
L29          1272 S AMPHIPATH?
L30             2 S L29 (L) L21
L31          9056 S  GLYCOSAMINOGLYCAN#
L32            26 S L31 AND L21
L33             7 S L31 (L) L21
L34            25 S L23 OR L24 OR L28 OR L30 OR L33

     FILE 'REGISTRY' ENTERED AT 11:37:46 ON 29 MAY 2003

     FILE 'HCAPLUS' ENTERED AT 11:39:16 ON 29 MAY 2003

=> d que nos l18
L1                STR
L2           11499 SEA FILE=REGISTRY SSS FUL L1
L4             750 SEA FILE=REGISTRY ABB=ON  PLU=ON  9012-76-4/CRN
L5               1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L4 AND L2
L18              1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L5


=> d .ca hitstr l18

L18  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         1997:88639  HCAPLUS
DOCUMENT NUMBER:          126:105680
TITLE:                    Ionization radiation-crosslinkable glucosamine-type
                          polysaccharides and their manufacture
INVENTOR(S):              Waki, Michinori; Oyamada, Hidekazu; Yamamoto, Kazutaka
PATENT ASSIGNEE(S):       Seikagaku Kogyo Co Ltd, Japan
SOURCE:                   Jpn. Kokai Tokkyo Koho, 10 pp.
                          CODEN: JKXXAF
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND  DATE           APPLICATION NO.   DATE
     ------------------  ----  -------------  ----------------  --------
     JP 0830903          A2    19961.9        JP 1995-128795    19950501
PRIORITY APPLN. INFO.:                    JP 1995-128795       19950501
AB   The title physiol. compatible polysaccharides useful for medical
     applications, e.g., drug delivery devices, are manufd. by introducing
     radiation-crosslinkable nontoxic groups into the substrates optionally via
     spacers.  Thus, mixing a sodium salt of hyaluronic acid (I) with cinnamic
     anhydride in a H2O-dioxane mixt. in the presence of 4-
     dimethylaminopyridine and Et3N for 2 h at room temp. and working up gave a
     [illegible]

     [illegible]
     [illegible]
IT   [illegible] Hyal[illegible]
```

acid compd. with methyl 6-aminohexanoyl-4-aminocinnamate hydrochloride 185824-25-3P, Hyaluronic acid compd. with 6-aminohexyl cinnamate hydrochloride **185824-26-4P**, Chitosan compd. with cinnamoyl-6-aminohexanoic acid
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(ionization-type radiation-crosslinkable mucopolysaccharides and manuf. and medical uses)

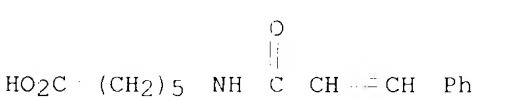
IT **185824-26-4P**, Chitosan compd. with cinnamoyl-6-aminohexanoic acid
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(ionization-type radiation-crosslinkable mucopolysaccharides and manuf. and medical uses)

RN 185824-26-4 HCAPLUS

CN Chitosan, compd. with 6-[(1-oxo-3-phenyl-2-propenyl)amino]hexanoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 78121-41-2
CMF C15 H19 N O3



CM 2

CRN 9012-76-4
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

=> d que nos l34
L3 1 SEA FILE=REGISTRY ABB=ON PLU=ON CHITOSAN/CN
L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON LACTOSE/CN
L7 2 SEA FILE=REGISTRY ABB=ON PLU=ON MALTOSE/CN
L8 2 SEA FILE=REGISTRY ABB=ON PLU=ON MELIBIOSE/CN
L9 1 SEA FILE=REGISTRY ABB=ON PLU=ON CELLOBIOSE/CN
L10 1 SEA FILE=REGISTRY ABB=ON PLU=ON LAMINARIBIOSE/CN
L11 1 SEA FILE=REGISTRY ABB=ON PLU=ON MANNOBIOSE/CN
L12 8 SEA FILE=REGISTRY ABB=ON PLU=ON (L6 OR L7 OR L8 OR L9 OR L10 OR L11)
L14 1 SEA FILE=REGISTRY ABB=ON PLU=ON CHITIN/CN
L19 15863 SEA FILE=HCAPLUS ABB=ON PLU=ON L3 OR L14

[illegible]

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L25      244478 SEA FILE=HCAPLUS ABB=ON  PLU=ON  CARBOHYDRA?/OBI OR DISACCHARID
                E#/OBI OR SACCHARIDE#/OBI OR MONOSACCHARIDE#/OBI OR SUGAR#/OBI
L26          55 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L25 (L) L21
L27       39371 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L12 OR LACTOSE/OBI OR
                MALTOSE/OBI OR MELIBIOSE/OBI OR CELLOBIOSE/OBI OR LAMINARIBIOSE
                /OBI OR MANNOBIOSE/OBI
L28          18 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L27 AND L26
L29        1272 SEA FILE=HCAPLUS ABB=ON  PLU=ON  AMPHIPATH?/OBI
L30           2 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L29 (L) L21
L31        9056 SEA FILE=HCAPLUS ABB=ON  PLU=ON  GLYCOSAMINOGLYCAN#/OBI
L33           7 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L31 (L) L21
L34          25 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L23 OR L24 OR L28 OR L30 OR
                L33


=> d .ca l34 1-25

L34  ANSWER 1 OF 25  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2002:594682  HCAPLUS
DOCUMENT NUMBER:          137:135060
TITLE:                    Use of carbohydrates for eliminating intestinal
                          infections in animals
INVENTOR(S):              Klingeberg, Michael; Kozianowski, Gunhild; Kunz,
                          Markwart; Munir, Mohammad; Vogel, Manfred
PATENT ASSIGNEE(S):       Sudzucker Aktiengesellschaft Mannheim/Ochsenfurt,
                          Germany
SOURCE:                   PCT Int. Appl., 53 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 German
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND  DATE          APPLICATION NO.   DATE
     ----------------    ----  --------      ----------------  --------
     WO 2002060452       A2    20020808      WO 2001-EP14867   20011217
     WO 2002060452       A3    20030320
         W:  AU, CA, IL, JP, MX, RU, US, ZA
         RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE, TR
     DE 10104055         A1    20020814      DE 2001-10104055  20010131
PRIORITY APPLN. INFO.:                     DE 2001-10104055 A  20010131
AB   The invention discloses the use of carbohydrates, esp.
     1-O-.alpha.-D-glucopyranosyl-D-sorbitol, 6-O-.alpha.-D-
     glucopyranosylsorbitol, lactobionic acid, maltobionic acid, condensed
     palatinose, difructose dianhydrides, fructooligosaccharides, hydrated
     fructooligosaccharides, chitooligosaccharides, chitosanoligosaccharides,
     galactomannan oligosaccharides and oligogalacturonide-contg. pectin
     hydrolyzates, for the treatment of bacterial intestinal infections in
     monogastric animals.  The invention also discloses animal feed and

IT   69-79-4, Maltose
     RL: BSU (Biological study, unclassified); BUU (Biological study, unspecified); BIOL (Biological study)
```

(reaction; carbohydrates for eliminating intestinal infections in animals)

IT **63-42-3, Lactose** 1398-61-4, Chitin 9000-69-5, Pectin 9005-80-5, Inulin **9012-76-4D, Chitosan, deacetylated** 13718-94-0, Isomaltulose
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction; **carbohydrates** for eliminating intestinal infections in animals)

L34 ANSWER 2 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:511191 HCAPLUS
DOCUMENT NUMBER: 138:152436
TITLE: Preparation, water solubility and rheological property of the N-alkylated mono or **disaccharide chitosan derivatives**
AUTHOR(S): Yang, Tsui-Chu; Chou, Cheng-Chun; Li, Chin-Fung
CORPORATE SOURCE: Graduate Institute of Food Science & Technology, National Taiwan University 59, Taipei, Taiwan
SOURCE: Food Research International (2002), 35(8), 707-713
CODEN: FORIEU; ISSN: 0963-9969
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB N-alkylation of chitosan was performed in a mixt. of methanol and 1% acetic acid contg. different amts. of monosaccharides or disaccharides including glucose, galactose, glucosamine, fructose, lactose, maltose and cellobiose. All the N-alkylated chitosan derivs. with monosaccharides were insol. in aq. soln. (pH 7), while N-alkylated chitosan derivs. with disaccharides were easily sol. in distd. water, and the N-alkylated chitosan derivs. with lactose were sol. only at high pH. The degree of substitution (DS) of the N-alkylated chitosan derivs. increased with increasing disaccharides levels and with increasing reaction time. The reduced viscosity of the N-alkylated chitosan derivs. with disaccharides decreased with increasing DS. Apparent viscosity and pseudoplasticity of the N-alkylated disaccharide contg. deriv. solns. generally decreased with increasing DS. Although apparent viscosities of N-alkylated chitosan derivs. with low DS decreased with increase in pH or ionic strength, changes in high DS N-alkylated chitosan derivs. with pH values or ionic strength were not marked.
CC 17-2 (Food and Feed Chemistry)
Section cross-reference(s): 35
IT Food solubility
Food viscosity
(prepn., water soly. and rheol. property of N-alkylated mono or **disaccharide chitosan derivs.**)
IT **Disaccharides**
Monosaccharides
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn., water soly. and rheol. property of N-alkylated mono or **disaccharide chitosan derivs.**)

IT [illegible] Chitosan
[illegible]
(prepn., water soly. and rheol. property of N-alkylated mono or **disaccharide chitosan derivs.**
9012-76-4DP, Chitosan, [illegible] derivs.

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn., water soly. and rheol. property of N-alkylated mono or **disaccharide chitosan derivs.**)

IT 50-99-7, D-Glucose, reactions 57-48-7, D-Fructose, reactions 59-23-4, D-Galactose, reactions **63-42-3, Lactose 69-79-4, Maltose 528-50-7, Cellobiose** 3416-24-8, Glucosamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn., water soly. and rheol. property of N-alkylated mono or **disaccharide chitosan derivs.**)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 3 OF 25 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER:	2001:483099 HCAPLUS
DOCUMENT NUMBER:	135:242421
TITLE:	Chemical modification of chitosan. 7. Preparation and lectin binding property of chitosan-carbohydrate conjugates
AUTHOR(S):	Sashiwa, Hitoshi; Shigemasa, Yoshihiro; Roy, Rene
CORPORATE SOURCE:	Department of Chemistry, University of Ottawa, Ottawa, ON, K1N 6N5, Can.
SOURCE:	Bulletin of the Chemical Society of Japan (2001), 74(5), 937-943 CODEN: BCSJA8; ISSN: 0009-2673
PUBLISHER:	Chemical Society of Japan
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB Chitosan-sialic acid conjugates were prepd. using p-formylphenyl .alpha.-sialoside by reductive N-alkylation. The degree of substitution (DS) of conjugates could be controlled from 0.06 to 0.53 by the amt. of sialoside. With the use of p-isothiocyanatophenyl .alpha.-sialoside, chitosan-sialic acid conjugates were also prepd. with excellent efficiency. Chitosan-melibiose conjugates having .alpha.-galactosyl epitope were also prepd. by reductive N-alkylation. These conjugates were transformed into water-sol. forms by N-succinylation and their protein binding property was tested using wheat germ agglutinin (WGA) or Griffonia simplicifolia (GSI-B4) lectin. Strong immunodiffusion bands were obsd. in all of conjugates, thus demonstrating the specific binding of epitope in conjugate to each lectins.

CC 33-5 (Carbohydrates)
Section cross-reference(s): 6

IT **9012-76-4DP, Chitosan,** formylphenyl melibioside **derivs. 9012-76-4DP, Chitosan, melibiose derivs.** 66240-42-4DP, Chitan, formylphenyl melibioside **derivs.** 66240-42-4DP, Chitan, **melibiose derivs.**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

[illegible]
[illegible]
lectin binding specificity.

585-99-9DP, Melibiose, chitosan derivs

. **9012-76-4DP, Chitosan, saccharide derivs.** 288104-97-2DP, **chitosan derivs.** 289635-27-4DP, **chitosan derivs.** 361177-01-7DP, **chitosan derivs.**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of **chitosan-carbohydrate** conjugates and study of their lectin-binding specificity)

IT **9012-76-4DP, Chitosan, saccharide derivs.**, succinylated
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of **chitosan-carbohydrate** conjugates and study of their lectin-binding specificity)

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 4 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:340552 HCAPLUS
DOCUMENT NUMBER: 134:316099
TITLE: Nutritive composite bio-chemical health-care products
INVENTOR(S): Chen, Jiayan; Cai, Zhijian; Chen, Xin
PATENT ASSIGNEE(S): Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 4 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1271581	A	20001101	CN 1999-105992	19990427

PRIORITY APPLN. INFO.: CN 1999-105992 19990427

AB The nutrient is composed of chitosan 50-70, chitin 5-7, RNA 15-28, DNA 1-3, vitamin 5-10, amino acid 4-10, and orgs. of trace elements 0-5 part. Vitamin is vitamin A, vitamin B, vitamin C, vitamin D, and/or vitamin E.

IC ICM A61K031-715
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 18
IT Amino acids, biological studies
DNA
Glycosaminoglycans, biological studies
RNA
Trace elements, biological studies
Vitamins
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nutrients contg. **chitin derivs.** and vitamins and amino acids and trace elements)

. . . . . .

PATENT ASSIGNEE(S): [illegible]
SOURCE: Ger. Offen., 14 pp.
CODEN: [illegible]

DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19857546	A1	20000615	DE 1998-19857546	19981214

PRIORITY APPLN. INFO.: DE 1998-19857546 19981214

AB The water soly. of chitin and/or chitosan at neutral or basic pH is increased by reacting them with aldoses and/or ketoses and reducing the intermediate imines to the corresponding amino compds. These derivs. have excellent gel- and film-forming and viscosity-elevating properties and show moisturizing and antimicrobial activity. They show improved compatibility with anionic formulation components and electrolytes, and dissolve to form clear solns. at neutral and alk. pH. Thus, a soln. of lactose 12.5 and maltose-H2O 13.5 g in 200 mL H2O was added dropwise to a soln. of 6 g chitosan in 330 mL 0.2M HOAc (pH 5) and the mixt. was stirred at room temp. for 6 h, followed by addn. of 7.1 g NaBH3CN and stirring for a further 24 h. The clear, highly viscous soln. was neutralized with concd. NaOH soln., and the product was pptd. with 800 mL acetone, washed, and dried. A hair rinse was prepd. contg. this N-substituted chitosan 1.0, Plantacare 818 2.0, Emulgade PL 68/50 4.0, Lameform TGI 1.0, Cutina GMS 0.5, Cetiol V 1.0, Nutrilan Keratin W 2.3, Gluadin WK 1.0, and H2O to 100 wt.%.

IC ICM A61K007-40
ICS C08B037-08

CC 62-3 (Essential Oils and Cosmetics)

ST **chitosan sugar deriv** reduced cosmetic; hair prepn **chitosan lactose maltose;** **chitin sugar deriv** reduced cosmetic

IT 50-99-7D, D-Glucose, reaction products with chitin and chitosan, reduced, biological studies 59-23-4D, D-Galactose, reaction products with chitin and chitosan, reduced, biological studies **63-42-3D, Lactose,** reaction products with chitin and chitosan, reduced **69-79-4D, Maltose,** reaction products with chitin and chitosan, reduced **528-50-7D, Cellobiose,** reaction products with chitin and chitosan, reduced **585-99-9D, Melibiose,** reaction products with chitin and chitosan, reduced 1393-61-4D, Chitin, reaction products with aldoses and ketoses, reduced 3458-28-4D, D-Mannose, reaction products with chitin and chitosan, reduced 7512-17-6D, N-Acetylglucosamine, reaction products with chitin and chitosan, reduced 9012-76-4D, Chitosan, reaction products with aldoses and ketoses, reduced
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(N-substituted biopolymers for use in cosmetics)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Chitosan derivative

INVENTOR(S): [illegible]; Kurihara, Sachi, JP

PATENT ASSIGNEE(S): Noevir Co., Ltd., Japan

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000027889	A1	20000518	WO 1999-JP6197	19991108
W: AU, CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1152013	A1	20011107	EP 1999-954422	19991108
F: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AU 755683	B2	20021219	AU 2000-10786	19991108

PRIORITY APPLN. INFO.: JP 1998-319209 A 19981110
WO 1999-JP6197 W 19991108

AB A functional chitosan deriv. which comprises a chitin/chitosan, which is a natural polysaccharide, and incorporated therein at least one of a saccharide, a photoreactive functional group, an amphipathic group, e.g., a polyoxyalkylene alkyl ether, and a glycosaminoglycan. The functional chitosan deriv. has soly. in a neutral medium, self-crosslink-ability, the property of highly contg. water or healing wounds, and antithrombogenic properties. Namely, the deriv. has various properties required of health care materials such as medical products and cosmetics. A lactose- and azidobenzoate-substituted chitosan was prepd. for obtaining a chitosan deriv. having reducing end groups and photoreactive functional groups. The chitosan deriv. was then crosslinked by UV irradn. for 30 s to obtain a hardly water-sol. chitosan hydrogel.

IC ICM C08B037-08
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 44, 62
ST **chitosan deriv saccharide** azidobenzoate **glycosaminoglycan** hydrogel
IT Anticoagulants
Cell adhesion
Cosmetics
Hydrogels
Medical goods
chitosan derivs. contg. **saccharides** and/or **photoreactive** functional groups and/or **amphipathic** groups and/or **glycosaminoglycan** for health care products)
IT Hair preparations
(conditioners; **chitosan derivs.** contg. **saccharides** and/or **photoreactive** functional groups and/or **amphipathic** groups and/or **glycosaminoglycan** for health care products)
IT 97620-59-3DP, reaction with **chitosan** [illegible]

chitosan derivs. [illegible] **saccharides**
[illegible] **photoreactive** [illegible]
amphipathic groups and/or **glycosaminoglycan** [illegible]

IT 86630-59-3, EX 171
PL: PCT (Reactant); RACT (Reactant or reagent)
(**chitosan derivs.** contg. **saccharides** and/or **photoreactive** functional groups and/or **amphipathic** groups and/or **glycosaminoglycan** for health care products)

IT 269409-43-0DP, reaction product with azidobenzoic acid and Ex-171
269409-58-7P
PL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(functional **chitosan derivs.** contg. **saccharides** and/or **photoreactive** functional groups and/or **amphipathic** groups and/or **glycosaminoglycan** for health care products)

IT 269409-44-1DP, reaction with azidobenzoic acid
PL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(functional **chitosan derivs.** contg. **saccharides** and/or **photoreactive** functional groups and/or **amphipathic** groups and/or **glycosaminoglycan** for health care products)

IT 269409-43-0P 269409-44-1P
PL: BUU (Biological use, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(functional **chitosan derivs.** contg. **saccharides** and/or **photoreactive** functional groups and/or **amphipathic** groups and/or **glycosaminoglycan** for health care products)

IT 269409-46-3P 269409-65-6P 269409-69-0P
PL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(functional **chitosan derivs.** contg. **saccharides** and/or **photoreactive** functional groups and/or **amphipathic** groups and/or **glycosaminoglycan** for health care products)

IT **63-42-3, Lactose 69-79-4, Maltose**
585-99-9, Melibiose 611-95-0, p-Benzoylbenzoic acid
621-82-9, Cinnamic acid, reactions 6427-66-3, p-Azidobenzoic acid
9012-76-4, Chitosan
PL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of functional **chitosan derivs.** contg. **saccharides** and/or **photoreactive** functional groups and/or **amphipathic** groups and/or **glycosaminoglycan** for health care products)

REFERENCE COUNT:

AUTHOR(S): Li, Xuebing; Morimoto, Minoru; Sashiwa, Hitoshi; Saimoto, Hiroyuki; Okamoto, Yoshiharu; Minami, Saburo; Shigemasa, Yoshihiro
CORPORATE SOURCE: Department of Materials Science, Faculty of Engineering, Tottori University, Tottori, 680-8552, Japan
SOURCE: Polymers for Advanced Technologies (1999), 10(7), 455-458
CODEN: PADTE5; ISSN: 1042-7147
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Various chitosan-sugar hybrids were synthesized. The influence of the hybrids on the active oxygen generation of canine polymorphonuclear leukocyte (PMN) cells was investigated by measurement of the chemiluminescence (CL) response. The CL responses depended on the degree of substitution (DS) and water soly. of the hybrids. Water-insol. hybrids stimulated the PMN cells directly by phagocytosis and the water-sol. ones would sensitize the PMN cells by a priming effect.

CC 63-7 (Pharmaceuticals)

IT 5965-66-2DP, .beta.-D-**Lactose, deriv.**, reaction products with **chitosan** 7296-15-3DP, .alpha.-D-Mannose, **deriv.**, reaction products with **chitosan** **9012-76-4DP, Chitosan,** reaction products with **sugar derivs.** 70086-22-5DP, Poly(oxy-1,2-ethanediyl), .alpha.-methyl-.omega.-2-oxoethoxy-, reaction products with chitosan
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. of **chitosan-sugar** hybrids and their bioactivity)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 8 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:305837 HCAPLUS
DOCUMENT NUMBER: 131:60254
TITLE: Chemical modification of chitin and chitosan 2: preparation and water soluble property of N-acylated or N-alkylated partially de-acetylated chitins
AUTHOR(S): Sashiwa, Hitoshi; Shigemasa, Yoshihiro
CORPORATE SOURCE: Department of Materials Science, Faculty of Engineering, Tottori University, Tottori, 680, Japan
SOURCE: Carbohydrate Polymers (1999), 39(2), 127-138
CODEN: CAPOD8; ISSN: 0144-8617
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB N-Acylated partially de-acetylated chitin (I) derivs. were prepd. via ring opening reactions with various [illegible]

chitosan deriv [illegible]
disaccharide monosaccharide

reactions 56-82-6, DL-Glyceraldehyde 58-86-6, D-Xylose, reactions 59-23-4, D-Galactose, reactions **63-42-3, Lactose** **69-79-4, Maltose** 75-07-0, Acetaldehyde, reactions 78-84-2, Isobutyraldehyde 85-44-9, Phthalic anhydride 90-02-8, Salicylaldehyde, reactions 100-52-7, Benzaldehyde, reactions 108-30-5, Succinic anhydride, reactions 108-31-6, Maleic anhydride, reactions 108-55-4, Glutaric anhydride 119-67-5, 3-Formylbenzoic acid 120-21-8, 4-Diethylaminobenzaldehyde 123-11-5, 4-Methoxybenzaldehyde, reactions 123-38-6, Propionaldehyde, reactions 123-72-8, n-Butyraldehyde 129-64-6, 5-Norbornene-endo-2,3-dicarboxylic anhydride 141-46-8, Glycolaldehyde 146-72-5, 3-O-Methyl-D-glucose 154-17-6, 2-Deoxy-D-glucose 298-12-4, Glyoxylic acid **528-50-7, Cellobiose** 533-67-5, 2-Deoxy-D-ribose 552-30-7, Trimellitic anhydride **585-99-9, Melibiose** 619-66-9, 4-Formylbenzoic acid 872-85-5, 4-Formylpyridine 935-79-5, cis-1,2,3,6-Tetrahydrophthalic anhydride 2170-03-8, Itaconic anhydride 2438-80-4, L-Fucose 3458-28-4, D-Mannose 3615-41-6, L-Rhamnose 7512-17-6, N-Acetyl-D-glucosamine 9012-76-4, Chitosan 10323-20-3, D-Arabinose 13149-00-3, cis-1,2-Cyclohexanedicarboxylic anhydride 64373-51-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation of chitosan with cyclic anhydrides and alkylation with aldehydes and disaccharides and monosaccharides)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 9 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:142396 HCAPLUS
DOCUMENT NUMBER: 130:242143
TITLE: Amphoteric chitosan derivatives and cosmetics containing them
INVENTOR(S): Seki, Taizo
PATENT ASSIGNEE(S): NOEVIR Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11060606	A2	19990302	JP 1997-227406	19970807

PRIORITY APPLN. INFO.: JP 1997-227406 19970807
OTHER SOURCE(S): MARPAT 130:242143

AB Cosmetics contain amphoteric chitosan derivs. having (lyso)phosphatidyl group-contg. reducing sugars R1CO2CH2CH(OCOR2)CH2OP(O)(OH)OX (R1, R2 = H, C.gtoreq.1 linear or branched alkyl, alkenyl; X = reducing sugar residue; R1 = R2 .noteq. H) linked to the amino groups. Chitosan was reacted with D-arabinose lysophosphatidylcholine deriv. to give an amphoteric chitosan

[redacted]

Carbohydrates, [redacted]

(amino **sugars**; prepn. of amphoteric **chitosan deriv.** emulsifiers for storage-stable, antimicrobial, and moisturizing cosmetics)

IT **Carbohydrates**, reactions
PL: RCT (Reactant); RACT (Reactant or reagent)
(reducing **sugars**; prepn. of amphoteric **chitosan deriv.** emulsifiers for storage-stable, antimicrobial, and moisturizing cosmetics)

IT 50-99-7DP, D-Glucose, reaction products with (lyso)phospholipids and chitosan, biological studies 57-48-7DP, D-Fructose, reaction products with (lyso)phospholipids and chitosan, biological studies 59-23-4DP, D-Galactose, reaction products with (lyso)phospholipids and chitosan, biological studies **63-42-3DP, Lactose**, reaction products with (lyso)phospholipids and chitosan **69-79-4DP, Maltose**, reaction products with (lyso)phospholipids and chitosan **528-50-7DP, Cellobiose**, reaction products with (lyso)phospholipids and chitosan 1109-28-0DP, Maltotriose, reaction products with (lyso)phospholipids and chitosan 1114-41-6DP, Muramic acid, reaction products with (lyso)phospholipids and chitosan 3019-74-7DP, D-Sedoheptulose, reaction products with (lyso)phospholipids and chitosan 3416-24-8DP, D-Glucosamine, reaction products with (lyso)phospholipids and chitosan **9012-76-4DP, Chitosan**, reaction products with (lyso)phosphatidyl group-contg. reducing **sugars** 10323-20-3DP, D-Arabinose, reaction products with (lyso)phospholipids and chitosan 13000-25-4DP, Lactosamine, reaction products with (lyso)phospholipids and chitosan
PL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); MOA (Modifier or additive use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of amphoteric **chitosan deriv.** emulsifiers for storage-stable, antimicrobial, and moisturizing cosmetics)

L34 ANSWER 10 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:142395 HCAPLUS
DOCUMENT NUMBER: 130:242142
TITLE: Amphoteric chitosan derivatives and cosmetics containing them
INVENTOR(S): Seki, Taizo
PATENT ASSIGNEE(S): NOEVIR Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

[illegible] prepn. of chitosan at partially deacetylated form. Chitosan was reacted with N-stearoyl-D-glucosamine and lactose to give an amphoteric chitosan [illegible]

antimicrobial and skin-moisturizing effects.

IC ICM C08B037-08
ICS A61K007-00; A61K007-035; A61K007-48; A61K031-73; A61K007-075; A61K007-08

CC 62-3 (Essential Oils and Cosmetics)
Section cross-reference(s): 1, 63

IT **Carbohydrates**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(amino **sugars**; prepn. of storage-stable, antimicrobial, and moisturizing amphoteric **chitosan derivs.** for cosmetics)

IT Glycerophospholipids
Lysophospholipids
RL: RCT (Reactant); RACT (Reactant or reagent)
(reducing **sugar derivs.**; prepn. of storage-stable, antimicrobial, and moisturizing amphoteric **chitosan derivs.** for cosmetics)

IT **Carbohydrates**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reducing **sugars**; prepn. of storage-stable, antimicrobial, and moisturizing amphoteric **chitosan derivs.** for cosmetics)

IT **Carbohydrates**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(**sugar** esters; prepn. of storage-stable, antimicrobial, and moisturizing amphoteric **chitosan derivs.** for cosmetics)

IT 50-99-7DP, D-Glucose, phosphatidyl **derivs.**, reaction products with **chitosan** and reducing **sugars**, biological studies
50-99-7DP, D-Glucose, reaction products with **chitosan** and hydrophobic group-contg. reducing **sugars**, biological studies
69-79-4DP, Maltose, reaction products with **chitosan** and hydrophobic group-contg. reducing **sugars**
528-50-7DP, Cellobiose, reaction products with **chitosan** and hydrophobic group-contg. reducing **sugars**
1109-28-0DP, Maltotriose, reaction products with **chitosan** and hydrophobic group-contg. reducing **sugars** 3458-28-4DP, D-Mannose, lysophosphatidyl **derivs.**, reaction products with **chitosan** and reducing **sugars** 4619-18-2DP, Lactulose, reaction products with **chitosan** and hydrophobic group-contg. reducing **sugars** 5627-25-8DP, Agarobiose, reaction products with **chitosan** and hydrophobic group-contg. reducing **sugars** **9012-76-4DP, Chitosan**, reaction products with hydrophobic and hydrophilic reducing **sugars** 13000-25-4DP, Lactosamine, reaction products with **chitosan** and hydrophobic group-contg. reducing **sugars** 24299-14-7DP, N-Stearoyl-D-glucosamine, reaction products with **chitosan** and reducing **sugars** 34620-76-3DP, Maltopentaose, reaction products with **chitosan** and hydrophobic group-contg. reducing **sugars** 110297-44-4DP, reaction products with **chitosan** [illegible] sugars

[illegible] chitosan
sugars [illegible] chitosan
[illegible] **sugars** [illegible]
chitosan and reducing **sugars** [illegible]
products with **chitosan** [illegible] sugars

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of storage-stable, antimicrobial, and moisturizing amphoteric **chitosan derivs.** for cosmetics)

L34 ANSWER 11 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:771319 HCAPLUS
DOCUMENT NUMBER: 130:29226
TITLE: Use of sugar derivatives against adhesion of protozoa and parasites
INVENTOR(S): Wolf, Florian; Schreiber, Joerg; Maurer, Peter; Buenger, Joachim
PATENT ASSIGNEE(S): Beiersdorf A.-G., Germany
SOURCE: Ger. Offen., 20 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19721411	A1	19981126	DE 1997-19721411	19970522

PRIORITY APPLN. INFO.: DE 1997-19721411 19970522

AB Adhesion of pathogenic protozoa and parasites to the skin or organ surfaces is inhibited by topical, oral, or parenteral administration of compns. contg. antiadhesive carbohydrates or carbohydrate derivs. such as esters with fatty acids. Thus, a water-in-oil lotion contained paraffin oil 25.00, silicone oil 2.00, ceresin 1.50, lanolin alc. 0.50, glucose sesquiisostearate 2.50, cetearyl glucoside 1.00, perfume, preservative, and H2O to 100.00 wt.%.

IC ICM A61K007-48
ICS A61K007-50; A61K007-075; A61K007-08; A61K007-11; A61K007-15; A61K007-32

CC 63-6 (Pharmaceuticals)

IT 56-73-5, Glucose 6-phosphate 57-50-1, Sucrose, biological studies 59-23-4, D-Galactose, biological studies **69-79-4, Maltose** 512-69-6, Raffinose 533-67-5, Deoxyribose **1398-61-4D, Chitin**, hydrolyzed 3458-28-4, D-Mannose 3615-41-6, Rhamnose 3672-15-9, Mannose 6-phosphate 7512-17-6, N-Acetylglucosamine 7535-00-4, Galactosamine 9004-34-6, Cellulose, biological studies 9004-61-9, Hyaluronic acid 9004-62-0, Hydroxyethylcellulose 9005-25-8, Starch, biological studies 9005-32-7, Alginic acid 9005-79-2, Glycogen, biological studies 9005-80-5, Inulin 9005-82-7, Amylose **9012-76-4, Chitosan** 9014-63-5, Xylan 9037-22-3, Amylopectin 9037-55-2, Galactan 11138-66-2, Xanthan 11600-01-2, Ganglioside GM2 37266-93-6 54827-14-4, Ganglioside GM3 58846-77-8, Decyl glucoside 65988-71-8, Ganglioside GD2 66267-50-3, **Chitosan** lactate 71012-19-6, Asialoganglioside GM1 89361-21-7,

sugar derivs.

L34 ANSWER 12 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:650920 HCAPLUS
DOCUMENT NUMBER: 129:335511
TITLE: Nonirritant skin-moisturizing and antiaging preparations containing 2-hydroxy fatty acids and sugars
INVENTOR(S): Yamada, Yasuhiro; Takei, Masumi; Yamamura, Tatsuo
PATENT ASSIGNEE(S): NOEVIR Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10265337	A2	19981006	JP 1997-91574	19970325

PRIORITY APPLN. INFO.: JP 1997-91574 19970325

AB The title topical prepns. contain .gtoreq.1 2-hydroxy fatty acid and .gtoreq.1 selected from chitosan, its derivs., and mixts. of sugars isomerized with alkali hydroxide solns. The prepns. show long-lasting and synergistic skin-moisturizing and fibroblast-activating effects and are useful for antiwrinkle and antiaging cosmetics. Formulation examples are given.

IC ICM A61K007-00
ICS A61K007-00; A61K007-035; A61K031-19; A61K031-70; A61K031-73; A61K007-48

CC 62-4 (Essential Oils and Cosmetics)

IT Cosmetics
(antiaging; nonirritant skin-moisturizing and antiaging prepns. contg. 2-hydroxy fatty acids and isomerized **sugars** and/or **chitosan** (**derivs.**))

IT Carboxylic acids, biological studies
Fatty acids, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(hydroxy; nonirritant skin-moisturizing and antiaging prepns. contg. 2-hydroxy fatty acids and isomerized **sugars** and/or **chitosan** (**derivs.**))

IT **Carbohydrates**, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(isomerized; nonirritant skin-moisturizing and antiaging prepns. contg. 2-hydroxy fatty acids and isomerized **sugars** and/or **chitosan** (**derivs.**))

IT Cosmetics
(moisturizers; nonirritant skin-moisturizing and antiaging prepns.

sugars
chitosan **derivs.**

IT [illegible], Lactic acid, biological studies [illegible], Citric acid,

87-69-4, Tartaric acid, biological studies 600-15-7, 2-Hydroxybutyric acid 617-31-2, 2-Hydroxyvaleric acid 2889-31-8, 2-Hydroxyglutaric acid 6915-15-7, Malic acid **9012-76-4, Chitosan** 18294-85-4, 2-Hydroxyadipic acid 52349-26-5, N-Trimethylchitosan 80331-46-0, 2-Hydroxyazelaic acid 87043-79-6, 2-Hydroxypimelic acid
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(nonirritant skin-moisturizing and antiaging prepns. contg. 2-hydroxy fatty acids and isomerized **sugars** and/or **chitosan** (**derivs.**))

IT 50-99-7, Glucose, biological studies **63-42-3, Lactose**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(nonirritant skin-moisturizing and antiaging prepns. contg. 2-hydroxy fatty acids and isomerized **sugars** and/or **chitosan** (**derivs.**))

L34 ANSWER 13 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:430637 HCAPLUS
DOCUMENT NUMBER: 129:153027
TITLE: **Amphipathic chitosan derivatives** and cosmetics or topical preparations containing them
INVENTOR(S): Seki, Taiko
PATENT ASSIGNEE(S): NOEVIR Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10182332	A2	19980707	JP 1996-354854	19961220

PRIORITY APPLN. INFO.: JP 1996-354854 19961220
OTHER SOURCE(S): MARPAT 129:153027
AB Title prepns. contain (RCOXNHXNH)nY, (RNHXNH)nY, and/or (RCOXNH)nY [R = C8-22 alkyl, alkenyl; X = sugar residue; Y = (partially deacetylated) chitosan residue; n = integer ≥ 1]. The prepns. show good moisturizing effect, antimicrobial property, and stability. A skin lotion was prepd. from EtOH 5.00, N-stearoyllactosamine-modified chitosan (substitution degree 0.59) 1.00, citric acid 0.05, and H2O 93.95 wt.%.
IC ICM A61K007-00
ICS A61K007-00; A61K031-715; B01F017-56; C08B037-08; A61K007-02; A61K007-06; A61K007/075
CC 62-4 (Essential Oils and Cosmetics)
Section cross-reference(s): 63

[illegible] amphipathic chitosan derivs.
IT 9012-76-4DP, Chitosan, reaction products with [illegible] chitosan

reaction products with **deacetylated chitosan** 210832-13-6DP, reaction products with **chitosan** 210832-14-7DP, reaction products with **chitosan** 210832-15-8DP, reaction products with **deacetylated chitosan** 210887-10-8DP, reaction products with **chitosan** 210887-11-9DP, reaction products with **chitosan** 210887-14-2DP, reaction products with **chitosan** 210887-15-3DP, reaction products with **deacetylated chitosan** 210887-16-4DP, reaction products with **deacetylated chitosan**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cosmetics or topical prepns. contg. **amphipathic chitosan derivs.**)

L34 ANSWER 14 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:402740 HCAPLUS
DOCUMENT NUMBER: 129:126879
TITLE: Melanin formation stimulants containing chitosan derivatives and skin and hair cosmetics containing them
INVENTOR(S): Banno, Norihiro; Toki, Masako; Matahira, Yoshiharu
PATENT ASSIGNEE(S): Ichimaru Pharcos Inc., Japan; Yaizu Suisan Kagaku Kogyo K. K.
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10167924	A2	19980623	JP 1996-338886	19961203

PRIORITY APPLN. INFO.: JP 1996-338886 19961203

AB Skin and hair cosmetics contain melanin formation stimulants contg. reaction products of chitosan with reducing terminal-contg. sugars. The cosmetics cause skin darkening without UV irradn. and prevent gray hair formation. Chitosan (10 g) was treated with 5.0 g D-galactopyranosylgluconic acid in TEMED buffer in the presence of carbodiimide hydrochloride for 3 days to give .apprx.12.5 g chitosan deriv., which showed tyrosinase activation and melanin formation stimulation. Milky lotion, lotion, pack, cream, shampoo, body soap, etc. contg. the chitosan derivs. were formulated.

IC ICM A61K007-00
ICS A61K007-00; A61K007-06; A61K007-075; A61K007-08; A61K007-48; A61K007-50; A61K031-73
CC 62-1 (Essential Oils and Cosmetics)
ST cosmetic melanin formation stimulant **chitosan**; **sugar**

IT [illegible]
[illegible]
reducing sugars, reaction products with **chitosan**; [illegible] chitosan deriv

. for skin and hair cosmetics)

IT **69-79-4DP, Maltose,** reaction products with chitosan
9012-76-4DP, Chitosan, reaction products with reducing **sugars** 209126-36-3DP, reaction products with chitosan
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(melanin formation stimulants contg. **chitosan derivs**
. for skin and hair cosmetics)

L34 ANSWER 15 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:394387 HCAPLUS
DOCUMENT NUMBER: 129:69064
TITLE: Antibacterial agents and preservatives containing chitosan derivatives and their use
INVENTOR(S): Kawai, Tokuji; Naito, Takehito; Koh, Ken; Matahei, Yoshiharu
PATENT ASSIGNEE(S): Ichimaru Pharcos Inc., Japan; Yaizu Suisan Kagaku Kogyo K. K.
SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10158305	A2	19980616	JP 1996-338885	19961203

PRIORITY APPLN. INFO.: JP 1996-338885 19961203

AB The antibacterial agents and preservatives contain chitosan derivs. prepd. by reacting chitosan and sugars with reductive terminals. Their uses in medicines for external use, bathing medicines, foods, drinks, and fiber treatment agents are also claimed. Thus, 5.0 g D-galactopyranosylgluconic acid was dissolved in 50 mmol tetramethylenediamine (I) buffer, stirred in the presence of carbodiimide hydrochloride, mixed with 10 g chitosan (deacetylation degree 33%) dissolved in I buffer, stirred, dialyzed, washed, and dried to give .apprx.12.5 g a chitosan-lactose deriv. (lactose derivation .apprx.31.5%). Growth of E. coli, S. aureus, P. aeruginosa, B. subtilis, and K. pneumoniae were prevented in a medium contg. the deriv.

IC ICM C08B037-08
ICS A01N043-16; A23L001-30; A61K007-00; A61K007-06; A61K007-075; A61K007-08; A61K007-48; A61K007-50; D06M015-03

CC 44-5 (Industrial Carbohydrates)
Section cross-reference(s): 17, 40, 62, 63

ST **chitosan deriv** antibacterial agent preservative; **sugar** reductive terminal **chitosan deriv** prepn; galactopyranosyl gluconic acid **chitosan deriv** prepn; medicine external use antibacterial preservative **chitosan;**

deriv
deriv
IT 69-79-4DP, Maltose,
9012-76-4DP, Chitosan,
sugars

with chitosan
RL: IMF (Industrial manufacture); PREP (Preparation)
(antibacterial agents and preservatives contg. **chitosan derivs.** and their use)

L34 ANSWER 16 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:289621 HCAPLUS
DOCUMENT NUMBER: 129:16341
TITLE: Preparation of aminosugar derivatives for medical and cosmetics uses
INVENTOR(S): Goto, Mitsuaki; Saeki, Shiro; Saito, Yoshio; Yura, Hirofumi
PATENT ASSIGNEE(S): Netech K. K., Japan; Yaizu Suisan Kagaku Kogyo K. K.
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10120705	A2	19980512	JP 1996-272604	19961015

PRIORITY APPLN. INFO.: JP 1996-272604 19961015

AB The aminosugars are prepd. by binding .gtoreq.1 amino group of aminosugar-contg. polysaccharides and/or oligosaccharides with a terminal group formed upon oxidative ring opening of reducing terminal of another sugars, preferably using water-sol. carbodiimides. The aminosugars are useful as moisturizers for cosmetics and those having sugars as constituents of extracellular matrix are useful as anchorages for cell culture, and moisturizers for cosmetics. Lactobionic acid was dissolved in a TEMED buffer, and the soln. was treated with EDC for 30 min then with a TEMED buffer soln. of chitosan for 3 days while adding EDC in several portions to give a chitosan lactose deriv.

IC ICM C08B037-08
ICS A61L027-00; C08B037-00
CC 33-5 (Carbohydrates)
ST aminopolysaccharide amidation cleaved **sugar**; lactobionic acid amidation **chitosan**; aminooligosaccharide **sugar deriv** prepn cell anchorage; cosmetic moisturizer aminopolysaccharide **sugar deriv**
IT **1398-61-4, Chitin**
RL: ACT (Reactant); FACT (Reactant or reagent)
(**deacetylation** of; prepn. of aminosugar-contg. oligo- or polysaccharides having another **sugar** moiety via amino group and their biol. uses)
IT 59-23-4D, Galactose, oxidatively cleaved, oligo- or polysaccharides having aminosugars amidated with [illegible], reaction products with aminosugars of oligo- or polysaccharides **528-50-7D, Cellobiose**, oxidatively cleaved, oligo- or polysaccharides having aminosugars amidated with [illegible]

[illegible] **Laminaribiose**, oxidatively cleaved, oligo- or polysaccharides having aminosugars amidated with [illegible]

with
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(prepn. of aminosugar-contg. oligo- or polysaccharides having another sugar moiety via amino group and their biol. uses)

L34 ANSWER 17 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:365396 HCAPLUS
DOCUMENT NUMBER: 127:92325
TITLE: Capillary electrophoresis of **glycosaminoglycan**-**derived** disaccharides: application to stability studies of **glycosaminoglycan** **chitosan** complexes
AUTHOR(S): Denuziere, Anne; Taverna, Myriam; Ferrier, Danielle; Domard, Alain
CORPORATE SOURCE: Laboratoire de Chimie Analytique, Faculte de pharmacie, Chatenay-Malabry, F-92290, Fr.
SOURCE: Electrophoresis (1997), 18(5), 745-750
CODEN: ELCTDN; ISSN: 0173-0835
PUBLISHER: Wiley-VCH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Capillary zone electrophoresis (CZE) was used to sep. the disaccharides produced by chondroitinase digestion of chondroitin sulfates. The main disaccharides formed upon depolymn. have identical charge and mass. Base-line resoln. of these two compds. was achieved by achieved by selecting appropriate concn. and pH of a borate buffer. Validation of the method showed a good linearity of the response and a very satisfactory reproducibility of migration times with a relative std. deviation (RSD) of less than 0.4%. The reproducibility of peak areas was improved by using an internal standardization. The addn. of cinnamic acid (internal std.) to the incubation medium allowed us to perform kinetic measurements of the depolymn. while keeping a baseline resoln. of the two main disaccharides analyzed during the complete digestion course even when their concn. in the incubation medium increased. Application of this method to the comparison of the rate of hydrolysis of chondroitin sulfate and of a complex assocg. chondroitin sulfate with chitosan showed clearly that, at the physiol. pH, chitosan protected the chondroitin sulfate from depolymn. This phenomenon was more pronounced as the pH of the incubation medium was far from the optimum pH activity of the chondroitinase.

CC 9-7 (Biochemical Methods)
ST **glycosaminoglycan** **derived** disaccharide capillary electrophoresis; **chitosan** complex glycosaminoglycancapillary electrophoresis
IT Capillary electrophoresis
(capillary electrophoresis of **glycosaminoglycan**-**derived** disaccharides and application to stability studies of **glycosaminoglycan** **chitosan** complexes)
IT Disaccharides
RL: PEP (Physical, engineering or chemical process); PROC (Process)

: ... ; ... ; ...
... : ... : **glycosaminoglycan** **derived** disaccharides and application to stability studies of **glycosaminoglycan** **chitosan** ...

IT 9007-28-7, Chondroitin sulfate
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(capillary electrophoresis of **glycosaminoglycan-derived** disaccharides and application to stability studies of **glycosaminoglycan chitosan** complexes)

L34 ANSWER 18 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:462235 HCAPLUS
DOCUMENT NUMBER: 125:117922
TITLE: Cinnamic acid derivatives for photocrosslinkable cinnamic acid-glycosaminoglycan derivative
INVENTOR(S): Waki, Michinori; Miyamoto, Kenji; Motani, Yoshihiro
PATENT ASSIGNEE(S): Seikagaku Kogyo Kabushiki Kaisha, Japan
SOURCE: Eur. Pat. Appl., 47 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 713859	A2	19960529	EP 1995-118164	19951117
EP 713859	A3	19960626		
EP 713859	B1	20000830		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08143604	A2	19960604	JP 1994-307050	19941117
JP 3308742	B2	20020729		
JP 09087236	A2	19970331	JP 1995-264686	19950920
JP 3343181	B2	20021111		
CA 2162957	AA	19960518	CA 1995-2162957	19951115
RU 2169136	C2	20010620	RU 1995-120243	19951116
AU 9537931	A1	19960523	AU 1995-37931	19951117
AU 705316	B2	19990520		
HU 73745	A2	19960930	HU 1995-3304	19951117
HU 219542	B	20010528		
CN 1133834	A	19961023	CN 1995-121853	19951117
CN 1090637	B	20020911		
AT 195952	E	20000915	AT 1995-118164	19951117
ES 2149914	T3	20001116	ES 1995-118164	19951117
CN 1245812	A	20000301	CN 1999-111865	19990730
CN 1098273	B	20030108		

PRIORITY APPLN. INFO.: JP 1994-307050 A 19941117
JP 1995-264686 A 19950920

OTHER SOURCE(S): MARPAT 125:117922

AB A photosensitive modifier, cinnamic acid deriv. is prepd. by introducing a novel spacer, e.g. aminoalc., amino acid, peptide, polyethylene glycolamine, etc. into photodimerizable cinnamic acid. Biopolymers (cast films) with properties (water absorption, phys. properties, physiol.

[illegible] above cinnamic acid polymer deriv. film was exposed to UV light to form [illegible]

are bound to form a cyclobutane ring) crosslinked biopolymer film.

IC ICM C07C219-10
ICS C07C017-08; C07C229-22; C07C237-08; C07C233-51; C07C237-04; C07K005-06; C07K005-08; C08B037-00; C08B037-08

CC 44-5 (Industrial Carbohydrates)

IT 9004-61-9DP, Hyaluronic acid, reaction product with cinnamic acid deriv., photocrosslinked 9007-28-7DP, Chondroitin sulfate, reaction product with cinnamic acid deriv., photocrosslinked **9012-76-4DP**, **Chitosan**, reaction product with cinnamic acid **deriv.**, photocrosslinked
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(cinnamic acid **derivs.** for photocrosslinkable cinnamic acid-**glycosaminoglycan deriv.** and properties)

L34 ANSWER 19 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:323776 HCAPLUS
DOCUMENT NUMBER: 125:41781
TITLE: Glycosaminoglycan-synthetic polymer conjugates
INVENTOR(S): Rhee, Woonza M.; Berg, Richard A.
PATENT ASSIGNEE(S): Collagen Corp., USA
SOURCE: U.S., 18 pp., Cont.-in-part of U.S. 5,324,775.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 18
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5510418	A	19960423	US 1993-146843	19931103
US 5162430	A	19921110	US 1989-433441	19891114
US 5324775	A	19940628	US 1992-907518	19920702
US 5304595	A	19940419	US 1992-998802	19921230
US 5306500	A	19940426	US 1993-110577	19930823
US 5376375	A	19941227	US 1994-177578	19940105
US 5503348	A	19960604	US 1994-290415	19940818
CA 2134745	AA	19950504	CA 1994-2134745	19941031
EP 656215	A1	19950607	EP 1994-117227	19941101
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
JP 07178303	A2	19950718	JP 1994-271556	19941104
US 5543441	A	19960806	US 1995-423576	19950418
US 5470911	A	19951128	US 1995-434656	19950504
US 5476666	A	19951219	US 1995-434725	19950504

PRIORITY APPLN. INFO.:
US 1988-274071 B2 19881121
US 1989-433441 A2 19891114
US 1992-907518 A2 19920702
US 1992-998802 A3 19921230
US 1993-110577 A3 19930823
US 1993-146843 A 19931103
US 1994-177578 A3 19940105

[redacted] which is [redacted]. Intended [redacted] with a hydrophilic synthetic polymer. The conjugates [redacted]

a hydrophilic synthetic polymer may be further bound to collagen to form a three component conjugate having different properties. The hydrophilic synthetic polymer may be polyethylene glycol and derivs. thereof having an av. mol. wt. over a range of from about 100 to about 100,000. The compns. may include other components such as fluid, pharmaceutically acceptable carriers to form injectable formulations, and/or biol. active proteins such as growth factors or cytokines. The conjugates of the invention generally contain large amts. of water when formed. The conjugates can be dehydrated to form a relatively solid implant for use in hard tissue augmentation. The dehydrated, solid implant can further be ground into particles which can be suspended in a non-aq. fluid and injected into a living being (preferably human) for soft tissue augmentation. Once in place, the solid implants or particles rehydrate and expand in size approx. three- to five-fold.

IC ICM C08G063-91
NCL 525054200
CC 63-6 (Pharmaceuticals)
IT **1398-61-4DP, Chitin,** reaction products with PEG **derivs.** 9004-61-9DP, Hyaluronic acid, deacetylated, reaction products with PEG derivs. 9005-49-6DP, Heparin, reaction products with PEG derivs. **9012-76-4DP, Chitosan,** reaction products with PEG **derivs.** 9056-36-4DP, Keratan sulfate, reaction products with PEG derivs. 9067-32-7DP, Sodium hyaluronate, deacetylated, reaction products with PEG derivs. 24967-93-9DP, Chondroitin sulfate A, reaction products with PEG derivs. 24967-94-0DP, Dermatan sulfate, reaction products with PEG derivs. 25322-46-7DP, Chondroitin sulfate C, reaction products with PEG derivs. 25322-68-3DP, Polyethylene glycol, activated, reaction products with glycosaminoglycans 154467-38-6DP, reaction products with glycosaminoglycans
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**glycosaminoglycan**-synthetic polymer conjugates for pharmaceuticals)

L34 ANSWER 20 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:795229 HCAPLUS
DOCUMENT NUMBER: 123:179528
TITLE: Glycosaminoglycan-synthetic polymer conjugates
INVENTOR(S): Rhee, Woonza M.; Berg, Richard A.
PATENT ASSIGNEE(S): Collagen Corp., USA
SOURCE: Can. Pat. Appl., 59 pp.
CODEN: CPXXEB
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 18
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2134745	AA	19950504	CA 1994-2134745	19941031

AB Pharmaceutically acceptable, nonimmunogenic compns. are formed by covalently binding glycosaminoglycans or derivs. thereof, to hydrophili

biocompatible conjugates. Useful glycosaminoglycans include hyaluronic acid, the chondroitin sulfates, keratan sulfate, chitin and heparin, each of which is chem. derivatized to react with a hydrophilic synthetic polymer. The conjugate comprising a glycosaminoglycan covalently bound to a hydrophilic synthetic polymer may be further bound to collagen to form a three component conjugate having different properties. The hydrophilic synthetic polymer may be polyethylene glycol and derivs. thereof having an av. mol. wt. over a range of from about 100 to about 100,000. The compns. may include other components such as fluid, pharmaceutically acceptable carriers to form injectable formulations, and/or biol. active proteins such as growth factors or cytokines. The conjugates of the invention generally contain large amts. of water when formed. The conjugates can be dehydrated to form a relatively solid implant for use in hard tissue augmentation. The dehydrated, solid implant can further be ground into particles which can be suspended in a non-aq. fluid and injected into a living being (preferably human) for soft tissue augmentation. Once in place, the solid implants or particles rehydrate and expand in size approx. three- to five-fold.

IC ICM C07K015-20
ICS C07K017-08; C08B037-00; A61L027-00; A61K047-48; A61K037-66; A61K037-36; A61K031-715

CC 63-6 (Pharmaceuticals)

IT **1398-61-4DP, Chitin,** reaction products with PEG **derivs.** 9004-61-9DP, Hyaluronic acid, reaction products with PEG derivs. 9005-49-6DP, Heparin, reaction products with PEG derivs. **9012-76-4DP, Chitosan,** reaction products with PEG **derivs.** 9056-36-4DP, Keratan sulfate, reaction products with PEG derivs. 24967-93-9DP, Chondroitin sulfate A, reaction products with PEG derivs. 24967-94-0DP, Dermatan sulfate, reaction products with PEG derivs. 25322-46-7DP, Chondroitin sulfate C, reaction products with PEG derivs. 25322-68-3DP, derivs., reaction products with glycosaminoglycans 26403-72-5P 62066-14-2DP, reaction products with glycosaminoglycans 122375-06-8P 123502-57-8P 151709-76-1P 154467-38-6DP, reaction products with glycosaminoglycans
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**glycosaminoglycan**-synthetic polymer conjugates)

L24 ANSWER 21 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:490011 HCAPLUS
DOCUMENT NUMBER: 122:222866
TITLE: Ionically crosslinked glycosaminoglycan gels for soft tissue augmentation and drug delivery.
INVENTOR(S): Berg, Richard A.; Rhee, Woonza M.
PATENT ASSIGNEE(S): Collagen Corp., USA
SOURCE: Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

JP 07196704 A2 19950801 JP 1994-199881 19940824
PRIORITY APPLN. INFO.: US 1993-112833 19930826

AB The present invention pertains to the use of glycosaminoglycans, chem. derivatized glycosaminoglycans, and optionally, chem. derivatized collagens to form ionically crosslinked gels useful in mammal soft tissue augmentation and in drug delivery systems. The derivatized glycosaminoglycans can be used to form an ionically homogeneous gel comprising one or more species of glycosaminoglycan deriv. or can be used to form an ionically crosslinked heterogeneous gel comprising one or more neg. charged species of glycosaminoglycan or collagen deriv. in combination with one or more pos. charged species of glycosaminoglycan deriv. or collagen deriv. The ionically crosslinked homogeneous or ionically crosslinked heterogeneous gels are produced from liq. solns. which upon adjusting pH in situ form a gel.

IC ICM C08L005-08
ICS C08L005-10; A61K047-36; A61L027-00
ICI C08L005-10, C08L089-06
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 33
IT 9004-61-9DP, Hyaluronic acid, deacetylated 9005-49-6DP, Heparin, desulfated 9007-28-7DP, Chondroitin sulfate, deacetylated
9012-76-4DP, Chitosan, deacetylated
9012-76-4P, Chitosan
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(ionically crosslinked **glycosaminoglycan** gels for soft tissue augmentation and drug delivery)

L34 ANSWER 22 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:496519 HCAPLUS
DOCUMENT NUMBER: 119:96519
TITLE: Functionalized biodegradable poly(hydroxyalkanoates) and method of manufacturing same
INVENTOR(S): Yalpani, Manssur
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5191016	A	19930302	US 1990-554338	19900719
US 5268422	A	19931207	US 1992-973730	19921109

PRIORITY APPLN. INFO.: US 1990-554338 19900719

AB The title polymers YO[[CHR1(CH2)lCOO]m[CHR2(CH2)rCOO]n]qCHR3(CH2)pA(X-Z) (A = CO, CH2; R1-3 = H, C1-9 alkyl or alkenyl, arom. moiety; X = O, NH; Y = H, saccharide or alkenyl moiety having mol. wt. 25-100,000; Z = H,

[illegible]
IC [illegible]
ICS C08G063-48; C08G069-26; C08G069-36
[illegible]

CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 5, 38, 43, 44

ST **chitosan** polyhydroxybutyric acid **deriv** biodegradable; polyhydroxybutyric acid cellulose **deriv** biodegradable; polysaccharide polyhydroxybutyric acid **deriv** biodegradable; oligosaccharide polyhydroxybutyric acid **deriv** biodegradable; **disaccharide** polyhydroxybutyric acid **deriv** biodegradable; **monosaccharide** polyhydroxybutyric acid **deriv** biodegradable; starch polyhydroxybutyric acid **deriv** biodegradable; dextran polyhydroxybutyric acid **deriv** biodegradable

IT 50-69-1DP, D-Ribose, reaction products with poly(hydroxybutyrate) 50-70-4DP, D-Glucitol, amino derivs., reaction products with poly(hydroxybutyrate) 50-99-7DP, D-Glucose, reaction products with poly(hydroxybutyrate) 57-48-7DP, D-Fructose, reaction products with poly(hydroxybutyrate) 57-50-1DP, Sucrose, reaction products with poly(hydroxybutyrate) 57-92-1DP, Streptomycin, reaction products with poly(hydroxybutyrate) 58-86-6DP, D-Xylose, reaction products with poly(hydroxybutyrate) 59-23-4DP, D-Galactose, reaction products with poly(hydroxybutyrate) **63-42-3DP**, reaction products with poly(hydroxybutyrate) 69-65-8DP, Mannitol, reaction products with poly(hydroxybutyrate) **69-79-4DP, Maltose**, reaction products with poly(hydroxybutyrate) 147-81-9DP, Arabinose, reaction products with poly(hydroxybutyrate) 299-28-5DP, Glucal, reaction products with poly(hydroxybutyrate) 488-43-7DP, 1-Amino-1-deoxysorbitol, reaction products with poly(hydroxybutyrate) 488-81-3DP, Ribitol, reaction products with poly(hydroxybutyrate) 535-94-4DP, reaction products with poly(hydroxybutyrate) 585-86-4DP, Lactitol, reaction products with poly(hydroxybutyrate) 585-88-6DP, Maltitol, reaction products with poly(hydroxybutyrate) 608-66-2DP, Galactitol, reaction products with poly(hydroxybutyrate) 1811-31-0DP, N-Acetylgalactosamine, reaction products with poly(hydroxybutyrate) 1949-75-3DP, D-glycero-D-gluco-Heptose, reaction products with poly(hydroxybutyrate) 2438-80-4DP, Fucose, reaction products with poly(hydroxybutyrate) 3416-24-8DP, reaction products with poly(hydroxybutyrate) 3458-28-4DP, Mannose, reaction products with poly(hydroxybutyrate) 3615-17-6DP, reaction products with poly(hydroxybutyrate) 3615-41-6DP, Rhamnose, reaction products with poly(hydroxybutyrate) 7512-17-6DP, N-Acetyl glucosamine, reaction products with poly(hydroxybutyrate) 7535-00-4DP, reaction products with poly(hydroxybutyrate) 8063-07-8DP, Kanamycin, reaction products with poly(hydroxybutyrate) 9000-07-1DP, Carrageenan, reaction products with poly(hydroxybutyrate) 9000-69-5DP, Pectin, reaction products with poly(hydroxybutyrate) 9002-89-5DP, Poly(vinyl alcohol), reaction products with poly(hydroxybutyrate) 9002-98-6DP, reaction products with poly(hydroxybutyrate) 9003-20-7DP, Poly(vinyl acetate), reaction products with poly(hydroxybutyrate) 9004-34-6DP, Cellulose, reaction products with poly(hydroxybutyrate) 9004-35-7DP, Cellulose acetate, reaction products with poly(hydroxybutyrate) 9004-54-0DP, Dextran, reaction products with poly(hydroxybutyrate) [illegible]

[illegible], Xylan, reaction products with poly(hydroxybutyrate)
9044-36-6DP, Hemicellulose, reaction products with poly(hydroxybutyrate)
9050-36-6DP, Mannan, reaction products with poly(hydroxybutyrate)

9045-28-7DP, Starch acetate, reaction products with poly(hydroxybutyrate)
9050-36-6DP, Maltodextrin, reaction products with poly(hydroxybutyrate)
9057-02-7DP, Pullulan, reaction products with poly(hydroxybutyrate)
11078-30-1DP, Galactomannan, reaction products with poly(hydroxybutyrate)
11078-31-2DP, Glucomannan, reaction products with poly(hydroxybutyrate)
11138-66-2DP, Xanthan, reaction products with poly(hydroxybutyrate)
12619-70-4DP, Cyclodextrin, reaction products with poly(hydroxybutyrate)
14307-02-9DP, Mannosamine, reaction products with poly(hydroxybutyrate)
26336-38-9DP, Poly(vinyl amine), reaction products with poly(hydroxybutyrate) 35110-26-0DP, Poly(glucosamine), reaction products with poly(hydroxybutyrate) 37331-28-5DP, Pustulan, reaction products with poly(hydroxybutyrate) 39464-87-4DP, Scleroglucan, reaction products with poly(hydroxybutyrate) 42617-20-9P, Chitosan acetate 54724-00-4DP, Curdlan, reaction products with poly(hydroxybutyrate) 96949-21-2DP, Rhamsan gum, reaction products with poly(hydroxybutyrate) 96949-22-3DP, Welan gum, reaction products with poly(hydroxybutyrate) 113755-30-9DP, reaction products with poly(hydroxybutyrate) 142804-65-7DP, Gellan, reaction products with poly(hydroxybutyrate) 149315-80-0DP, reaction products with poly(hydroxybutyrate)
RL: PREP (Preparation)
(prepn. of, biodegradable)

L34 ANSWER 23 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:87414 HCAPLUS
DOCUMENT NUMBER: 118:87414
TITLE: Manufacture of hair tonics
INVENTOR(S): Inoe, Tomio
PATENT ASSIGNEE(S): Japan Happy K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04295412	A2	19921020	JP 1991-84688	19910325

PRIORITY APPLN. INFO.: JP 1991-84688 19910325

AB A hair tonic is prepd. with an acidic soln. contg. (1) .gtoreq. 1 material selected from a group comprising sol. natural sugars, blood plasma, and/or plasma expanders, and (2) .gtoreq. 1 compd. selected from chitin, chitosan, and/or their derivs. A compn. contg. citric acid 15, chitin-chitosan mixt. 5, dextran 6, maltose 12, glucose 6, and H2O 56 wt.% showed an excellent hair growth-stimulating effect.

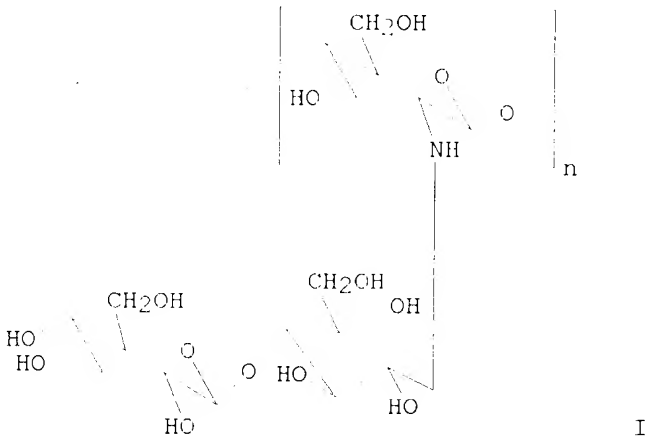
IC ICM A61K007-06
CC 62-4 (Essential Oils and Cosmetics)
ST hair tonic **sugar chitin deriv**
IT Hair preparations
(growth stimulants, **sugars** and blood plasma and

[illegible]
IT [illegible]-61-4, Chitin **1398-61-4D, Chitin, derivs**
[illegible]-76-4, Chitosan

(hair growth stimulants contg. **sugars** or plasma or plasma expanders and)

L34 ANSWER 24 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:434180 HCAPLUS
DOCUMENT NUMBER: 113:34180
TITLE: Separation of saccharides on cross-linked chitosan beads with microcolumn liquid chromatography
AUTHOR(S): Jinno, Kiyokatsu; Takayama, Katsumi
CORPORATE SOURCE: Sch. Mater. Sci., Toyohashi Univ. Technol., Toyohashi, 440, Japan
SOURCE: Journal of Microcolumn Separations (1989), 1(4), 195-9
CODEN: JMSEEJ; ISSN: 1040-7685
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Porous chitosan beads cross-linked by hexamethylenebis-2,3-epoxypropyldimethylammonium chloride (Chitopearl 2500) were methylated to prevent adsorption of solutes on the hydroxy groups and to be used as the stationary phase in anion-exchange liq. chromatog. The beads were derivatized without loss of their gel permeability. Sepn. of some monosaccharides was achieved with the beads when boric acid soln. was used as the mobile phase. Resoln. for monosaccharides was remarkably improved by selecting a suitable pH and concn. of boric acid in the mobile phase. In order to detect saccharides by UV, a postcolumn derivatization method with 2-cyanoacetamide was adopted.
CC 80-4 (Organic Analytical Chemistry)
ST anion exchange chromatog **saccharide chitosan deriv; saccharide** sepn amine exchange chromatog; **chitosan** cross linked ion exchanger **saccharide**; Chitopearl 2500 methylated ion exchanger **saccharide**
IT 50-69-1, D-Ribose 50-99-7, D-Glucose, analysis 57-50-1, Sucrose, analysis 58-86-6, D-Xylose, analysis 59-23-4, D-Galactose, analysis **63-42-3, Lactose 69-79-4, Maltose** 597-12-6, Melezitose 1114-34-7, D-Lyxose 3458-28-4, D-Mannose 5328-37-0, L-Arabinose 34612-38-9 34620-78-5, Maltoheptaose
RL: ANST (Analytical study); PROC (Process)
(sepn. of, from saccharides by liq. chromatog. on cross-linked chitosan)

L34 ANSWER 25 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:156910 HCAPLUS
DOCUMENT NUMBER: 100:156910
TITLE: Some chemical and analytical aspects of polysaccharide modifications. III. Formation of branched-chain, soluble chitosan derivatives
AUTHOR(S): Yalpani, Mansur; Hall, Laurance D.
CORPORATE SOURCE: Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.
SOURCE: Macromolecules (1984), 17(3), 272-81
CODEN: MAMOBX; ISSN: 0024-9297



I

AB Specific attachment of carbohyrates to the 2-amino functions of chitosan transforms this water-insol., linear polymer into branched-chain water-sol. derivs. Facile conversions can be achieved by reductive alkylation using NaCNBH3 and any aldehydo or keto sugar, by Schiff's base formation, or by amidation reactions using carboxylic acid or lactone derivs. Exptl. results are presented for a series of mono-, di-, and tri-, and polysaccharides, including D-glucose, N-acetylglucosamine, D-glucosamine, D-galactose, D-galactosamine, D-fructose, D-glucoheptonic acid .gamma.-lactone, lactose, cellobiose, maltose, melibiose, maltotriose, streptomycin sulfate, C6-aldehydo-cycloheptamylose, and dextran. These procedures facilitate the prepn. of polymer derivs. with a variety of comb-like, tree-like, and other branching types. Many of these products are amenable to further, specific chem. modifications; this is demonstrated by the introduction, via galactose oxidase treatment, of C-6 aldehyde functions into the pendant galactose residues of derivs. I. The synthetic chitosan derivs. exhibit a no. of useful and uncommon properties in terms of their soln. characteristics. I formed inclusion complexes with iodine, lactose, and 4-oxo-2,2,6,6-tetramethylpiperidine-1-oxyl. Soly. modifications were accomplished by co-reaction of hydrophilic (lactose) and hydrophobic (various alkyl) residues, affording products which were sol. in both aq. and org. media. Reductive alkylation of chitin afforded the 1-deoxylactit-1-yl deriv. which was water insol. but formed sols in water and several org. solvents. Factors affecting the soln. behavior of chitosan and its branched derivs. have been evaluated and mechanisms have been discussed for solute interactions and conformational transitions.

CC 33-7 (Carbohydrates)

ST **chitosan** branched chain **deriv**; reductive alkylation
chitosan sugar; soly **chitosan deriv**;
gelation **chitosan deriv**; inclusion compd
chitosan deriv; **chitin deriv**

[illegible]

63-42-3 69-79-4 [illegible] 528-50-7

585-99-9 1109-28-0 3416-24-8 7512-17-6 7535-00-4
9004-54-0, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reductive N-alkylation of chitosan with)

IT 1398-61-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reductive N-alkylation of, with **lactose**)

IT **9012-76-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(N-alkylation of, with **carbohydrates**, branched-chain sol. **derivs.** from)

```
=> fil wpids
FILE 'WPIDS' ENTERED AT 11:52:48 ON 29 MAY 2003
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MOST RECENT DERWENT UPDATE:     200333        <200333/DW>
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     (FILE 'WPIDS' ENTERED AT 11:40:56 ON 29 MAY 2003)
               DEL HIS Y
L1          6345 S CHITOSAN# OR CHITIN#
L2          1868 S L1 (S) (DEACETYL? OR DERIV?)
L3         82845 S ?SACCHARIDES OR SUGAR# OR ?SACCHARIDE OR LACTOSE OR MALTOSE O
L4          1283 S PHOTO REACT? OR PHOTOREACT?
L5           654 S AMPHIPAT?
L6           772 S GLYCOSAMINOGLYCAN#
L7           576 S L2 (L) L3
L8         10050 S LACTOSE OR MALTOSE OR MELIBIOSE OR CELLOBIOSE OR LAMINARIBIOS
L9            51 S L8 AND L7
L10            4 S L9 AND MEDICAL
L11            7 S L9 AND HEALTH
L12          913 S L2 AND (A96 OR D22)/DC
L13           27 S L12 AND L9
L14            2 S L4 AND L3
L15            7 S L5 (L) L2
L16            1 S L13 AND REDUCT? TERMIN?
L17           43 S L2 (L) L6
L18           39 S L17 AND (MEDICAL OR HEALTH OR L12)
L19           13 S L18 AND HEPARIN#
L20           26 S L10 OR L11 OR L14 OR L15 OR L16 OR L19
```

[illegible] ... SEA FILE WPIDS ABB=ON PLU=ON ... (S) ... AND ...
[illegible] ... SEA FILE WPIDS ABB=ON PLU=ON ?SACCHARIDES OR SUGAR# OR
?SACCHARIDE OR LACTOSE OR MALTOSE OR MELIBIOSE OR CELLOBIOSE

```
L4          1283 SEA FILE=WPIDS ABB=ON  PLU=ON  PHOTO REACT? OR PHOTOREACT?
L5           654 SEA FILE=WPIDS ABB=ON  PLU=ON  AMPHIPAT?
L6           772 SEA FILE=WPIDS ABB=ON  PLU=ON  GLYCOSAMINOGLYCAN#
L7           576 SEA FILE=WPIDS ABB=ON  PLU=ON  L2 (L) L3
L8         10050 SEA FILE=WPIDS ABB=ON  PLU=ON  LACTOSE OR MALTOSE OR MELIBIOSE
                 OR CELLOBIOSE OR LAMINARIBIOSE OR MANNOBIOSE
L9            52 SEA FILE=WPIDS ABB=ON  PLU=ON  L8 AND L7
L10            3 SEA FILE=WPIDS ABB=ON  PLU=ON  L9 AND MEDICAL
L11            2 SEA FILE=WPIDS ABB=ON  PLU=ON  L9 AND HEALTH
L12          913 SEA FILE=WPIDS ABB=ON  PLU=ON  L2 AND (A96 OR D22)/DC
L13           27 SEA FILE=WPIDS ABB=ON  PLU=ON  L12 AND L9
L14            6 SEA FILE=WPIDS ABB=ON  PLU=ON  L4 AND L2
L15            7 SEA FILE=WPIDS ABB=ON  PLU=ON  L5 (L) L2
L16            1 SEA FILE=WPIDS ABB=ON  PLU=ON  L13 AND REDUC? TERMIN?
L17           43 SEA FILE=WPIDS ABB=ON  PLU=ON  L2 (L) L6
L18           39 SEA FILE=WPIDS ABB=ON  PLU=ON  L17 AND (MEDICAL OR HEALTH OR
                 L12)
L19           13 SEA FILE=WPIDS ABB=ON  PLU=ON  L18 AND HEPARIN#
L20           26 SEA FILE=WPIDS ABB=ON  PLU=ON  L10 OR L11 OR L14 OR L15 OR L16
                 OR L19


=> d .wp l20 1-26

L20  ANSWER 1 OF 26  WPIDS (C) 2003 THOMSON DERWENT
AN   2003-329048 [31]   WPIDS
DNC  C2003-085579
TI   In vitro amplification of heterogeneous mRNA, by dephosphorylating sample
     RNA, removing cap structure from full-length mRNA, adding synthetic RNA
     adapter, synthesizing single, double stranded cDNAs, amplifying mRNA.
DC   B04 D16
IN   ZHOU, M
PA   (ZHOU-I) ZHOU M
CYC  1
PI   US 20021197685 A1 20021226 (200331)*       7p
ADT  US 20021197685 A1 Provisional US 2001-299413P 20010620, US 2002-174739
     20020619
PRAI US 2001-299413P  20010620; US 2002-174739   20020619
AB   US 20021197685 A UPAB: 20030516
     NOVELTY  In vitro amplification (M) of heterogeneous full length mRNA
     comprising dephosphorylating RNA (total or mRNA) obtained from biological
     sample, removing the 5' end cap structure from the full length mRNA,
     adding a synthetic RNA adapter containing an RNA polymerase site to 5' end
     of the decapped mRNAs, synthesizing single and double stranded cDNAs, and
     producing amplified mRNA by in vitro transcription, is new.
          DETAILED DESCRIPTION - (M) involves isolating mRNA from biological
     samples, removing the 5'-phosphates from truncated mRNAs and non-mRNAs
     with calf intestinal phosphatase (CIP), which leaves the capped mRNAs
     unaffected, removing the 5' end cap structure (Gppp.triphosphate) from the
     full length mRNAs, leaving a 5' monophosphate for subsequent ligation,
     [illegible] oligonucleotide [illegible] RNA adapter [illegible] primer
     complementary to the RNA adapter, capturing full length cDNAs on a solid
     phase through specific binding interaction between the first group (e.g.
```

streptavidin) bound to the solid support, using the captured full-length cDNAs for in vitro transcription to produce mRNAs, and repeating the step, if necessary, in order to obtain a large amount of amplified mRNA.

USE - (M) is useful for in vitro amplification of heterogeneous full length mRNA (claimed). The amplified full length mRNA can be used to amplify the protein content of a given type of cells/tissues when coupled with in vitro translation system. The method is useful in biology and medicine, including analysis of gene function, differential gene expression, protein discovery, cellular and clinical diagnostics, and drug screening. The method is also useful for gene expression profiling, meaning to characterization of both mRNA (transcription) and protein (translation) for any given type of cells/tissues. The method is also useful in proteomics, which involves the systemic identification and characterization of proteins that are present in biological samples so that their role in **health** and disease can be determined. Such information is valuable in diagnosis, prognosis, and monitoring response to therapy, and in elucidating disease mechanisms and identifying therapeutic targets for the prevention and treatment of disease.

ADVANTAGE - The method is a robust system for amplifying a complete set of mRNA in a given type of cells/tissues.

Dwg.0/2

TECH UPTX: 20030516

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Method: The synthetic polynucleotide adapter refers to RNA and DNA, as well as nucleotide analogs e.g. phosphorothioates, phosphorodithioates, phosphorotriesters, phosphoramidates, boranophosphates, methylphosphonates, chiral-methyl phosphonates, 2-O-methyl ribonucleotides and peptide-nucleic acids (PNAs). RNA polymerase promoter is T3, T7, SP6 or M13 RNA polymerase promoter. The method further involves preparing probes for microarray hybridization, and for cDNA library construction and gene cloning. The method further involves preparing mRNA/cDNA-based expression arrays, incorporating specific groups/tags into the transcription products to facilitate the identification, characterization or profiling of the products. The method further involves in vitro translation of the amplified transcription products and incorporating specific groups/tags into the translation products to facilitate the identification, characterization or profiling of the products. The groups/tags comprises a binding domain which is **derived** from a polypeptide selected from glutathione-S-transferase (GST), **maltose**-binding protein, **chitin**, cellulase, thioredoxin, avidin, streptavidin, green fluorescent protein, Protein L and Protein G/A.

L20 ANSWER 2 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2003-267351 [26] WPIDS
DNC C2003-069730
TI Formulation useful for enhancing peak concentrations in CNS tissues or fluids and for treating e.g. Parkinson's disease, comprises dopamine agonist and at least one delivery enhancing agent.
DC B02 B04 B07
IN QUAY, S C

RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

ADT WO 2003000018 A2 WO 2002-US20171 20020624

PRAI US 2001-891630 20010625

AB WO2003000018 A UPAB: 20030428

NOVELTY - Stable formulation (A) comprising dopamine receptor agonist (I) and at least one delivery-enhancing agent (II), which when administered mucosally to a mammalian subject yields a peak concentration of (I) in central nervous system (CNS) tissue or fluid that is at least 5% greater than the peak concentration of (I) in blood plasma.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) (A) comprising one or more mucosally administered dopamine receptor agonists (I), which yields greater peak concentration of (I) in CNS tissue or fluid compared to that observed following administration of same dose by injection; and

(2) preparation of (A).

ACTIVITY - Antiparkinsonian; Relaxant; Anxiolytic; Endocrinal; Vasotropic.

The efficacy of formulations of the invention was assessed in a non-blinded study to determine the uptake of intranasal administration of apomorphine hydrochloride (Ia) into the cerebrospinal fluid in healthy male volunteers. A formulation comprising 0.25 or 0.50 (al % w/w) of (Ia) in conjunction with 0.68% anhydrous citric acid, 0.44% sodium citrate dihydrate, 7.0% propylene glycol and further ingredients was used. Results show that while prior art formulations (s.c. injection) provided 2.5% to 4.3% levels in the CSF compared to the plasma, the formulation of the invention provided CNS levels of 26.7% to 44.1% relative to plasma levels under comparable experimental conditions.

MECHANISM OF ACTION - Dopaminergic.

USE - For increasing peak concentrations of dopamine receptor agonists in central nervous system tissues or fluids or cerebral spinal fluid, useful for the treatment of Parkinson's disease, male or female erectile dysfunction, sexual dysfunction, diminished sexual desire, diminished ability to reach orgasm during sexual stimulation (all claimed), and for the delivery of androgens, estrogens, progestins, muscle relaxants, vasodilators, antihistamines, antitussives, antiepileptics, enzymes, anti-fungal agents, antibacterials, anti-cancer agents, antioxidants, antiarrhythmic agents, antihypertensives, antibodies, anti-sense oligonucleotides and RNA, DNA and viral vectors comprising genes encoding therapeutic peptides and proteins.

ADVANTAGE - (A) provides simpler route for mucosal administration that is fast acting, easily administered and causes no substantial adverse mucosal side effects. (A) also provides for increased bioavailability of (I) in CNS tissue or fluid.

Dwg.0/1

TECH UPTX: 20030428

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Enhancing Agent: (II) consists of at least one of:

(a) aggregation inhibitory agent;

(b) charge-modifying agent;

(iv) alcohol;
(v) enamine;
(vi) NO donor compound;
(vii) long chain **amphipathic** molecule;
(viii) small hydrophobic penetration enhancer;
(ix) sodium or salicylic acid **derivative**;
(x) glycerol ester of acetoacetic acid;
(xi) cyclodextrin or beta-cyclodextrin **derivative**;
(xii) chelating agent;
(xiii) medium chain fatty acid;
(xiv) amino acid or salt;
(xv) enzyme degradative to a selected membrane component;
(xvi) inhibitor of fatty acid synthesis; and/or
(xvii) inhibitor of cholesterol synthesis;
(h) modulatory agent of epithelial junction physiology;
(i) vasodilator agent;
(j) selective transport-enhancing agent; and/or
(k) stabilizing delivery vehicle, carrier, support or complex-forming species with which (I) is effectively combined, associated, contained, encapsulated or bound.
Preferred Composition: Mucosally administered (A) may be formulated to yield a peak dopamine receptor agonist concentration in cerebral spinal fluid that is 5 -10 % (most preferably 40 %) greater compared to peak concentration of dopamine receptor agonist in blood plasma. The formulation is substantially particulate free. (A) may also incorporate a **chitosan** or **chitosan derivative** such as poly-CuD. The pH is adjusted to 3.0 - 6.0 (most preferably 3.0 - 3.5).

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Materials: (II) consists of citric acid, sodium citrate, propylene glycol, glycerin, L-ascorbic acid, sodium metabisulfite, edetate disodium, benzalkonium chloride and/or sodium hydroxide.

L20 ANSWER 3 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-698555 [75] WPIDS
DNN N2002-550874 DNC C2002-197768
TI Administering closure forming or bulking up composition in minimally invasive surgery, comprises mixing water insoluble particle and carrier and applying to lumen.
DC **A96** B05 **D22** P32 P34
IN DONDA, F S; WIRONEN, J F
PA (DOND I) DONDA F S; (WIRO-I) WIRONEN J F; (REGE-N) REGENERATION TECHNOLOGIES INC
CYC 96
PI WO 20020624O4 A2 20020815 (200275)* EN 51p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD

[illegible]

PRAI US 2001-16602 20011022; US 2001-776404 20010202; US 2001-865318 20010525

AB WO 200262404 A UPAB: 20021120

NOVELTY - Administering a closure forming or bulking up composition (305) in a living mammal comprises mixing at least one type of water insoluble particle and a carrier, to form a composition applying the composition to at least one specific area of a lumen or other body region to close or bulk up the specific area.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an implantable composition comprising water insoluble particles and a carrier compound, where when combined in a liquid, the water insoluble particles are suspended in a solution;

(2) a kit comprising the implantable composition comprising water-insoluble particles that promote cellular inflammation, infiltration and/or adhesion, and a carrier to form a paste or suspension and instructions for delivering the composition to form an occlusion in the lumen, or a bulking up area in the tissue or organ, and

(3) an expandable tissue based sponge for implantation into the lumen.

USE - Used in minimally invasive surgical procedures, particularly percutaneous application of a composition that blocks the lumen of a body tube, repairs ruptured tissues, or bulks up tissue or organ of sphincter muscles and vocal chords to induce a change in voice. The method is particularly used for reducing or stopping menorrhea and repairing a ruptured interverbral disc. The method is used for treating anorectal and/or urinary incontinence by increasing the competency of the sphincter muscles.

ADVANTAGE - The composition promotes formation of adhesion, closes the lumen of the vas deferens or fallopian tubes for sterilization, blocks the entrance to the uterus for sterilization during birth control, makes the muscle more effective in shutting the urethral canal; injecting the compositions into the vocal chords, to induce a change in voice. The sponge promotes Asherman's syndrome when implanted into a uterus. The implant is highly compressible when dehydrated, so that it may be unfolded while placing in the barrel of a syringe. The implant expands when injected in the lumen of a body cavity and produces blockage of the lumen.

The administration of the biomaterial via implant or injection is minimally invasive and can be performed on an outpatient basis, resulting in a lower cost than other surgical forms of sterility or birth control. The procedure also eliminates patient complaints, since the patient need not follow any specific instructions or remembered to ingest or insert other forms of birth control pills or diaphragms. The composition has increased retention in the body, with the decreased rate of rejection.

DESCRIPTION OF DRAWING(S) - The figure (3A) shows a cross section of the tissue comprising epidermis, dermis, and sub-dermis layers and associated cells; (3b) shows injection of a biomaterial into the dermis layer of tissue which causes an immune response in surrounding tissue and (3c) shows swelling of tissue resulting from immune response to injection of material.

[illegible] insoluble particle which promotes responsive body processes, is obtained from fine particles of bone or hydroxyapatite with a particle size of [illegible]

125-250 mum, collagen shards with particle size of 125-250 mum, insoluble salts, or talc. The carrier comprises collagen, gelatin, carboxymethyl cellulose, **glycosaminoglycans**, proteoglycans, polyvinyl alcohol, thrombin, fibrin, albumin, aphiphillic **derivatives** of sodium alginate, **chitosan**, polyalcohols, polyamines, polyvinyls, polyamides, polyesters, polyanhydrides, polyortho esters, polyurethanes, polycarbonates, polyphosphazines, polysilicates, Zyderm (TM), Zyplast (TM), Fibrel (TM), Dermologen (TM), micronized Alloderm (TM), Isologen (TM), Bioplastique (TM), Arteplast (TM), Artecoll (TM), Formacryl (TM), hydrogels, ePTFE and/or CoSeal.
The carrier also includes an additive comprising growth factors (platelet-**derived** growth factor, fibroblast growth factor, vascular endothelial cell growth factor, bone morphogenetic protein, endothelial growth factor, endothelial cell growth factor or platelet-**derived** growth factor) and/or biologically active agents (hyaluronic acid, chondroitin sulfate, keratin sulfate, dermatan sulfate, **heparin**, **heparin** sulfate, galactosaminoglycuronoglycan sulfate, proteoglycans, members of the selectin, IgSF, Integrin or Cadherin superfamilies, laminin, entactin, nidogen and/or recombinant osteogenic protein-1)). The carrier is thermoplastic gelatin.

TECHNOLOGY FOCUS - INSTRUMENTATION AND TESTING - Preferred Kit: The instructions in the kit provide steps for mixing the water-insoluble particles and carrier in a syringe (110) having a flexible area of its barrel to facilitate mixing.

TECHNOLOGY FOCUS - BIOLOGY - Preferred Method: Lessening or cessation of menorrhea involves applying the composition to cervix through a catheter, and further constructing the expandable sponge and implanting into the uterine cavity. Sponge is dehydrated and compressed to fit inside a syringe and injected into the lumen or cavity to form occlusion. Dehydrated sponge is rehydrated in situ to expand to normal size. Implant is held in place through coagulation of blood surrounding the implant. Preferred Closure: The closure for a lumen or channel is vas deferens, tear, salivary gland, sweat gland ducts, arteriovenous connection, arteriovenous anastomosis, artery supplying a tumor, capillary plexus supplying tumor, or man-made channel in need of the closure.

L20 ANSWER 4 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-583501 [62] WPIDS
DNC C2002-164325
TI Bioemulsifier composition useful for forming and stabilizing oil-in-water emulsion, has an esterase protein found in association with emulsan in Acinetobacter, and a water-soluble polysaccharide polymer of any source.
DC D13 D16 D21
IN BACH, H R; GUTNICK, D L; GUTNICK, D
PA (UYFA-N) UNIV RAMOT APPLIED RES & IND DEV LTD; (BACH I) BACH H R; (GUTN-I) GUTNICK D L
CYC 100

AU 2002022483 A 20020624 (200267)
US 2002143071 A1 20021003 (200267)
US 6512014 B2 20030128 (200311)

ADT WO 2002048327 A2 WO 2001-IL1155 20011212; AU 2002022483 A AU 2002-22483 20011212; US 2002143071 A1 US 2000-734895 20001213; US 6512014 B2 US 2000-734895 20001213

FDT AU 2002022483 A Based on WO 2002048327

PRAI US 2000-734895 20001213

AB WO 2002048327 A UPAB: 20020926

NOVELTY - A bioemulsifier composition (I) comprising an esterase protein of 32.5 KD, or recombinant cells expressing esterase protein, where the protein is found in association with emulsan in the bacteria Acinetobacter, and a polysaccharide polymer of any source, or a biopolymer, is new.

DETAILED DESCRIPTION - (I) comprises:

(a) an esterase protein of 32.5 KD, where the protein is found in association with emulsan in the bacteria Acinetobacter, isolated from cell extracts from at least one strain of Acinetobacter, or recombinant preparations of the esterase protein isolated from esterase-producing vectors expressed in suitable hosts, or peptide fragments of the esterase protein produced in any of a variety of methods; and

(b) a polysaccharide polymer of any source, or a biopolymer.

Alternatively (I) comprises recombinant cells expressing an esterase protein of approximately 32.5 KD, or expressing fragments of the protein, and (b).

USE - (I) is useful for forming and stabilizing oil-in-water emulsions, by adding (I) and additionally disrupting the recombinant cells by heat, mechanical disruption or by using enzymes to release the cellular biomass, or treating the recombinant cells to expose the esterase protein (claimed). The composition is useful in numerous industries such as environmental management, health care, dental care, cosmetics and food product applications. A variety of crude and refined petroleum products including very hydrophobic refinery sludge can be emulsified using the esterase-apoemulsan composition. Applications in the petroleum industry include emulsification of various crude and refined oils as well as oily sludge wastes, clean-up, viscosity reduction, oil reclamation and heavy metal remediation. A number of other vegetable and mineral oil are also emulsified. The emulsifier complexes can also be employed in the bioremediation of heavy metals.

ADVANTAGE - The polymers are non-toxic and can therefore be applied immediately to specific applications in a variety of industrial and environmental settings.

Dwg.0/0

TECH UPTX: 20020926

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Composition: The peptide fragments of the esterase protein are produced using proteolysis, genetic cloning or chemical synthesis. The polysaccharide polymer is water-soluble or **amphipathic** and is from bacterial, plant or a synthetic source. The biopolymer is a polyanionic heteropolysaccharide. The polysaccharide is agarose, gum arabic, carrageenan, dextran, pectin,

[illegible] **derived** [illegible] strain A.lwoffi RAG-1, and has a specific amino acid sequence given in the

BD13. The polysaccharide polymer or bipolymer is produced in the esterase-expressing recombinant cells.

L20 ANSWER 5 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-556413 [59] WPIDS
CR 2001-091750 [10]; 2001-244222 [25]
DNN N2002-440361 DNC C2002-157714
TI Pharmaceutical composition forming clear dispersion on mixing with water, containing triglyceride, combination of surfactants and drug, e.g. polysaccharide such as the antithrombotic agent and anticoagulant **heparin**.
DC **A96** B04 B07 V06
IN CHEN, F; FIKSTAD, D T; PATEL, M V
PA (CHEN-I) CHEN F; (FIKS-I) FIKSTAD D T; (PATE-I) PATEL M V; (LIPO-N) LIPOCINE INC
CYC 100
PI US 2002032171 A1 20020314 (200259)* 45p
WO 2002053100 A2 20020711 (200259) EN
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
ADT US 2002032171 A1 CIP of US 1999-345615 19990630, CIP of US 1999-375636 19990817, CIP of US 2000-751968 20001229, US 2001-877541 20010608; WO 2002053100 A2 WO 2001-US50752 20011228
FDT US 2002032171 A1 CIP of US 6267985, CIP of US 6309663
PRAI US 2001-877541 20010608; US 1999-345615 19990630; US 1999-375636 19990817; US 2000-751968 20001229
AB US2002032171 A UPAB: 20020916
NOVELTY - A pharmaceutical composition (A) comprises an active agent (I) and a carrier (II) consisting of a triglyceride (TG) and at least two surfactants (ST) (at least one of which is hydrophilic), the amounts of TG and ST being such that a clear aqueous dispersion (absorbance less than 0.3 at 400 nm) is formed when (II) is mixed at 1 wt. % with an aqueous medium.

DETAILED DESCRIPTION - A pharmaceutical composition (A) comprises an active agent (I) and a carrier (II) consisting of a triglyceride (TG) and at least two surfactants (ST) (at least one of which is hydrophilic), the amounts of TG and ST being such that a clear aqueous dispersion (absorbance less than 0.3 at 400 nm) is formed when (II) is mixed at 1 wt. % with an aqueous medium. (I) is polysaccharide drug or oil-soluble vitamin; or may be any therapeutic agent provided that (II) contains at least one hydrophobic ST in an amount greater than that remaining solubilized in the absence of TG.

INDEPENDENT CLAIMS are included for:
(1) various (A)-based dosage forms;
(2) methods for treating mammalian patients by administration of (A);

USE - The [illegible] triglycerides and improved delivery of therapeutic agents.

delivery properties, allowing an increased loading capacity and often giving an increased rate and/or degree of bioabsorption of (I). In particular TG can be dissolved in amount greater than that possible in the absence of hydrophobic surfactant and the hydrophobic surfactant can be dissolved in an amount greater than that in the absence of TG. (A) form clear dispersions, and are homogeneous and thermodynamically stable. In particular chemically and physically stable polysaccharide drug formulations can be obtained.
Dwg.0/0

TECH UPTX: 20020916

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Triglycerides: TG is selected from vegetable oils (optionally partially or completely hydrogenated), fish oils, animal fats and synthetic, modified or fractionated TG's (or mixtures), the triglyceride is selected from almond, babassu, borage, blackcurrant seed, canola, castor, coconut, corn, cottonseed, evening primrose, grapeseed, groundnut, mustard seed, olive, palm, palm kernel, peanut, rapeseed and safflower oil or hydrogenated castor, coconut, palm, soybean, vegetable, cottonseed or castor oil; or partially hydrogenated soybean oil, soy oil, glyceryl tricaproate, glyceryl tricaprylate, glyceryl tricaprate, glyceryl trilinoleate, glyceryl triundecanoate, glyceryl trilaurate, glyceryl trioleate, glyceryl trilinoleate, glyceryl tricaprylate/caprate, glyceryl tricaprylate/caprate/laurate, glyceryl tricaprylate/caprate/linoleate, glyceryl tricaprylate/caprate/stearate, saturated polyglycolized glycerides, linoleic glycerides, caprylic/capric glycerides, modified triglycerides and/or fractionated triglycerides.
Preferred Surfactants: The ST component comprises at least two hydrophilic ST's or at least one hydrophobic ST and at least one hydrophilic ST. The hydrophilic ST's are nonionic (HLB value 10 or more) and/or ionic. The nonionic hydrophilic ST's are preferably alkyl glucosides or maltosides, alkyl thioglucosides, lauryl macroglycerides, polyoxyethylene (POE) alkyl ethers, POE alkylphenols, polyethylene glycol (PEG) fatty acid esters, PEG glycerol fatty acid esters, POE sorbitan fatty acid esters, POE-polyoxypropylene block copolymers, polyglycerol fatty acid esters, POE glycerides, POE sterols, POE vegetable oils (optionally hydrogenated), sugar ethers or esters or reaction mixtures obtained from polyols and one or more of fatty acids, glycerides, optionally hydrogenated mineral oils and sterols. The ST is preferably PEG-10 laurate, PEG-20 laurate, PEG-12 laurate, PEG-32 laurate, PEG-32 dilaurate, PEG-12-oleate, PEG-15 oleate, PEG-20 oleate, PEG-20 dioleate, PEG-32 oleate, PEG-200 oleate, PEG-400 oleate, PEG 15 stearate, PEG-32 distearate, PEG-40 stearate, PEG-100 stearate, PEG 20 dilaurate, PEG-25 glyceryl trioleate, PEG-32 dioleate, PEG-30 glyceryl laurate PEG-30 glyceryl laurate, PEG 20 glyceryl stearate PEG-30 glyceryl oleate, PEG-30 glyceryl oleate, PEG-30 glyceryl laurate, PEG-40 glyceryl laurate, PEG-40 palm kernel oil, PEG-50 hydrogenated castor oil, PEG-40 castor oil, PEG-35 castor oil, PEG-60 castor oil, PEG-40 hydrogenated castor oil, PEG-60 hydrogenated castor oil, PEG-60 corn oil, PEG-6 caprate/caprylate glycerides, PEG-8 caprate/caprylate glycerides, polyglyceryl 10 laurate, PEG-30 cholesterol, PEG-25 phyto sterol, PEG-30 soya sterol, PEG-20 trioleate, PEG-40 sorbitan oleate,

[illegible] tyl phenol and/or polyoxamer.
The [illegible] hydrophilic ST's are preferably alkylammonium salts, [illegible]

polypeptides, acyl lactylates, mono- and diacetylated tartaric acid esters of mono- and diglycerides, succinylated monoglycerides, citrate esters of mono- and diglycerides, alginate salts, propylene glycol alginate, optionally hydrogenated lecithins or lysolecithins, lyso-phospholipids, carnitine fatty acid ester salts, phospholipids, alkyl sulfate salts, fatty acid salts or sodium docusate.

The ionic hydrophilic ST's are preferably lecithin, lysolecithin, phosphatidyl choline, phosphatidylethanolamine, phosphatidylglycerol, phosphatidic acid, phosphatidyl serine, lysophosphatidylserine, lysophosphatidylcholine, lysophosphatidylethanolamine, lysophosphatidylglycerol, lysophosphatidic acid, lysophosphatidylserine, PEG-phosphatidylethanolamine, PVP-phosphatidylethanolamine, lactylic esters of fatty acids, stearoyl-2-lactylate, stearoyl lactylate, succinyl monoglycerides, mono/diacetylated tartaric acid esters of mono/diglycerides citric acid ester, cholate, taurocholate, glycocholate, deoxycholate, taurodeoxycholate, chenodeoxycholate, glycodeoxycholate, glycochenodeoxycholate, taurochenodeoxycholate, taursodeoxycholate, glycourosodeoxychlolate, cholylsarcosine, N-methyl taurocholate, caproate, caprylate, caprate, laurate, myristate, palmitate, oleate, ricinoleate, linoleate, linolenate, stearate, lauryl sulfate, tetraacetyl sulfate, docusate, lauroyl carnitine, palmitoyl carnitine, myristyl carnitine

The hydrophobic ST's have HLB value less than 10, and are preferably alcohols, POE alkyl ethers, fatty acids, bile acids, optionally acetylated glycerol fatty acid esters, lower alcohol or PEG fatty acid esters, PEG or polypropylene glycol glycerol fatty acid esters, POE glycerides, lactic acid esters of mono/diglycerides, propylene glycol diglycerides, sorbitan fatty acid esters, POE-polyoxypropylene block copolymers, transesterified vegetable oils, sterols, sugar esters, sucroglycerides, POE vegetable oils (optionally hydrogenated) or reaction mixtures obtained from polyols and one or more of fatty acids, glycerides, optionally hydrogenated mineral oils and sterols.

The hydrophobic ST's are preferably PEG 1-4 stearate, PEG 2-4 oleate, myristic acid, oleic acid, lauric acid, stearic acid, palmitic acid, PEG-4 dilaurate, PEG-4 dioleate, PEG-4 distearate, PEG-6 dioleate, PEG-6 distearate, PEG-8 dioleate, PEG 3-16 castor oil, PEG 5-10 hydrogenated castor oil, PEG 6-20 corn oil, PEG 6-20 almond oil, PEG-6 olive oil, PEG-6 peanut oil, PEG-6 palm kernel oil, PEG-6 hydrogenated palm kernel oil, PEG-4 capric/caprylic triglyceride, mono, di, tri, tetra esters of vegetable oil and sorbitol, pentaerythrityl di, tetra stearate, isostearate, oleate, caprylate or caprate, polyglyceryl 2-4 oleate, polyglyceryl 3 dioleate, polyglyceryl-6 dioleate, polyglyceryl-10 trioleate, polyglyceryl 3 distearate, propylene glycol mono- or diesters of 6-22C fatty acid, (acetylated) monoglyceride of 6-22C fatty acid, diglycerides of 6-22C fatty acids, lactic acid esters of monoglycerides, lactic acid esters of diglycerides, cholesterol, phytosterol, PEG 5-20 soya sterol, PEG-6 sorbitan tetra, hexastearate, PEG-6 sorbitan tetraoleate, sorbitan monolaurate, sorbitan monopalmitate, sorbitan mono, trioleate, sorbitan mono, tristearate, sorbitan mono, tristearate, sorbitan monoisostearate, sorbitan sesquistearate, sorbitan sesquioleate, PEG 2-5 oleyl ether, PEG 2-4 lauryl ether, PEG-2 cetyl ether, PEG-2

[illegible] selected from alcohols, polyols, amides, esters and/or propylene glycol [illegible]

ethanol, isopropanol, butanol, benzyl alcohol, ethylene glycol, propylene glycol, butanediol, glycerol, pentaerythritol, sorbitol, mannitol, transutol, dimethyl isosorbide, polyethylene glycol, polypropylene glycol, polyvinylalcohol, hydroxypropyl methylcellulose, cyclodextrin ethyl propionate, tributyl citrate, acetyl triethylcitrate, acetyl tributylcitrate, triethylcitrate, ethyl oleate, ethyl caprylate, ethylbutyratetriacetin, propylene glycol diacetate, caprolactone, delta-valerolactone, beta-butlyrolactone, 2-pyrrolidone, 2-piperidone, N-methylpyrrolidone, N-ethylpyrrolidone, N-hydroxyethyl pyrrolidone, N-octyl pyrrolidone, N-laurylpyrrolidone, dimethylacetamide, polyvinylpyrrolidone, glycofurol and/or methoxy PEG.
(I) optionally contains one or more further additives selected from antioxidants, buffers, antifoams, detackifiers, preservatives, chelating agents, viscosity modulators, tonicity agents, flavorings, colorants, binders, fillers, plasticizers, lubricants and/or enzyme inhibitors (for stabilizing (I)). (A) may include an aqueous medium, i.e. water, a palatable diluent or a beverage; or be in liquid, semi-solid, solid or liquid preconcentrate form. (I) is dissolved or suspended in (II).
Polysaccharides (I) are preferably selected from glucosamine, **glycosaminoglycans** (specifically **heparin**, heparan, chondroitin, dermatan or hyaluronic acid), dextran, xylan, pentasaccharides, polygalacturonic or polymannuronic acid, **chitin** or their salts, esters or other **derivatives**, especially low molecular weight **heparin** (particularly enoxaparin, dalteparin, gammaparin, nadroxaparin, enoxaparin, certoparin, reviparin or pamaparin), heparan sodium, heparan or heparan sulfate; and (A) containing the polysaccharides are specifically used for preventing blood coagulation or treating thrombosis (all claimed). The oil-soluble vitamin (I) preferably has vitamin E activity, and is especially alpha-tocopherol (claimed). The general therapeutic agents (I) are hydrophobic or hydrophilic drugs, nutritional supplements or cosmetic agents, specifically peptidomimetics, peptides, proteins, oligonucleotides, oligodeoxynucleotides, RNA, DNA, genetic materials, clopidrogel, aspirin, ticlopidine, warfarin, dipyridamole, cilostazol, pentoxifylline, celcoxib, refecoxib, parecoxib or valdecoxib (all claimed). Numerous (several hundred) further drugs (I) are listed in the disclosure.
TECHNOLOGY FOCUS - POLYMERS - Preferred Materials: Numerous polymeric materials for use in (A) are specified in the claims, e.g. polyoxyethylene (POE) alkyl ethers, POE alkylphenols, polyethylene glycol (PEG) fatty acid esters, PEG glycerol fatty acid esters, POE sorbitan fatty acid esters, POE polyoxypropylene block copolymers, polyglycerol fatty acid esters, POE glycerides, POE sterols or POE vegetable oils as surfactants; and PEG, polypropylene polyvinyl alcohol, hydroxypropyl methyl cellulose or polyvinyl pyrrolidone as solubilizers.

L20 ANSWER 6 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2003-519057 [55] WPIDS
DNN N2003-410323 DNC C2003-146784
TI New biodegradable, blood-compatible biopolymer comprising crosslinked polyubiquitin, forming hydrogels or matrices useful e.g. as wound

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001067181 A 20011211 (200255)

EP 1284992 A2 20030226 (200319) EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

ADT WO 2001091814 A2 WO 2001-CA784 20010529; AU 2001067181 A AU 2001-67181 20010529; EP 1284992 A2 EP 2001-944783 20010529, WO 2001-CA784 20010529

FDT AU 2001067181 A Based on WO 200191814; EP 1284992 A2 Based on WO 200191814

PRAI US 2000-207325P 20000530

AB WO 200191814 A UPAB: 20020829

NOVELTY - A novel biopolymer (A) comprises a 3-dimensionally crosslinked mixture of ubiquitin (I) (a small protein having a sequence of 76 amino acids given in the specification) and at least one crosslinking agent (II).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

(i) preparation of (A);

(ii) a biopolymer comprising (I), a solvent for (I) and at least one (II); and

(iii) the use of (I) in the preparation of (A).

ACTIVITY - Hemostatic; vulnerary.

MECHANISM OF ACTION - None given in the source material.

USE - (A) form hydrogels or matrices useful as wound dressings, biodegradable vehicles for oral, parenteral or topical drug delivery, enzyme biosensors for detection of nucleic or peptide molecules, in situ hybridization systems (e.g. for use in diagnostic assays), in vitro model systems for research, hemostatic agents, prostheses or implants (possibly containing cell cultures).

ADVANTAGE - (A) are biodegraded to non-toxic, endogenous materials; have good blood compatibility and low immunogenicity and can be prepared with a wide range of controllable properties (e.g. hydrophilicity, charge, degree of crosslinking, drug uptake and degradation/release kinetics).

Dwg.0/18

TECH UPTX: 20020829

TECHNOLOGY FOCUS - POLYMERS - Preferred Ubiquitins: (I) contains at least one ubiquitin unit or ubiquitin units in tandem, preferably 2-25 (especially 7) ubiquitin units. The ubiquitins may be recombinant or naturally occurring ubiquitins, or their mutants, analogs, fragments or **derivatives**.

Preferred Crosslinking Agents: (II) is a **photoreactive** or thermoreactive crosslinking agent specifically containing carboxy (or **derivative**, e.g. ester, halide, azide or hydrazide), sulfonic acid **derivative**, semicarbazide, thiosemicarbazide, aldehyde, ketone, alcohol, chloride, bromide, iodide, thio, primary, secondary or tertiary amine, hydrazide, epoxide or maleimide reactive groups. Preferably (II) is selected from polyethylene glycols or their **derivatives** (most preferred), polyamines, amines, polyvinyl compounds, polystyrene, epoxy compounds, silicones, proteins (specifically keratin, collagen, elastin,

[illegible] bis-succinimidyl [illegible], bis-succinimidyl [illegible], bis-sulfosuccinimidyl suberate, 1-ethyl-3-(3-dimethylaminopropyl) [illegible]

glutaraldehyde or paraformaldehyde) or their **derivatives**, In particular (II) is a polyethylene glycol **derivative** of formula X-(CH2CH2O)n-X (II'), especially an activated bifunctionalized polyethylene oxide.
n = at least 1;
X = covalent bond, group capable of reacting with an amino acid, R or OR (with the O bonded to the polyethylene oxide); and
R = methylene, ethylene, propylene, phenylene or phenylene carbamate (optionally substituted by at least one alkyl, aryl, halo, NO2, oxo, COOH, OH, thio, sulfonate or phosphate groups).
Preparation: Claimed preparation of (A) involves mixing a solution of (I) with at least one (II) and inducing polymerization for sufficient time to cause crosslinking.

L20 ANSWER 7 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-424869 [45] WPIDS
CR 1997-350664 [32]; 1999-180053 [15]; 2000-374511 [32]; 2001-158209 [16]; 2001-366833 [38]
DNC C2002-120307
TI Crosslinked polymer composition useful as a bioadhesive comprises a first synthetic polymer having nucleophilic groups covalently bound to a second synthetic polymer having electrophilic groups, to form three-dimensional matrix.
DC **A96** B04 B07 **D22**
IN BERG, R A; DELUSTRO, F A; RHEE, W M
PA (BERG-I) BERG R A; (DELU-I) DELUSTRO F A; (RHEE-I) RHEE W M; (COHE-N) COHESION TECHNOLOGIES INC
CYC 1
PI US 2002013408 A1 20020131 (200245)* 35p
US 6534591 B2 20030318 (200322)
ADT US 2002013408 A1 CIP of US 1995-573799 19951218, Cont of US 1996-769806 19961218, Cont of US 1999-229851 19990113, Cont of US 1999-302852 19990430, Cont of US 2000-733739 20001208, US 2001-932536 20010817; US 6534591 B2 CIP of US 1995-573799 19951218, Cont of US 1996-769806 19961218, Cont of US 1999-229851 19990113, Cont of US 1999-302852 19990430, Cont of US 2000-733739 20001208, US 2001-932536 20010817
FDT US 2002013408 A1 Cont of US 5874500, Cont of US 6051648, Cont of US 6160138; US 6534591 B2 Cont of US 5874500, Cont of US 6051648, Cont of US 6160138, Cont of US 6423278
PRAI US 1996-769806 19961218; US 1995-573799 19951218; US 1999-229851 19990113; US 1999-302852 19990430; US 2000-733739 20001208; US 2001-932536 20010817
AB US 2002013408 A UPAB: 20030402
NOVELTY - A composition comprises a first synthetic polymer (P1) having nucleophilic groups and a second synthetic polymer (P2) having electrophilic groups. The nucleophilic and the electrophilic groups form covalent bonds between (P1) and (P2), which results in the formation of a three dimensional matrix.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the [illegible]:

[illegible]; and

[illegible] adhesion between the surfaces;

mammalian subject involving:

(a) administering (P1) and (P2) simultaneously to the tissue, and

(b) allowing (P1) and (P2) to crosslink in situ;

(3) preventing the adhesion of a first tissue and a second tissue involving:

(a) carrying out step (1a);

(b) applying the mixture to the first tissue before crosslinking has occurred; and

(c) carrying out step (2b);

(4) coating a surface of a synthetic implant involving:

(a) carrying out step (1a);

(b) applying the mixture to a surface of the implant, and

(c) allowing (P1) and (P2) to crosslink with each other on the surface of implant;

(5) preparing a negatively or positively charged compound-containing matrix useful for the delivery of a negatively or positively charged compound to a mammalian subject, respectively involving:

(a) carrying out step (1a) in which (P1) or (P2) is present in the mixture in molar excess compared to (P2) or (P1);

(b) allowing (P1) and (P2) to crosslink to form the positively or negatively charged crosslinked synthetic polymer matrix, and

(c) reacting the positively or negatively charged matrix with the negatively or positively charged compound, respectively; and

(6) making a synthetic lenticule involving:

(a) carrying out step (1a);

(b) placing the mixture into a lenticular shaped mold or onto a surface of an eye; and

(c) crosslinking (P1) and (P2) to form a clear lenticule.

USE - For coating surfaces of synthetic implants e.g. artificial blood vessels, artificial heart valves, surgical membranes, surgical meshes, breast implants, lenticules, vascular grafts, and vascular stent/graft combinations; for effecting nonsurgical attachment of surfaces; for introduction into a hard or soft mammalian tissue; for preventing tissue adhesion and tissue and surgical adhesion; for preparing positively and negatively charged compound-containing matrix useful for delivering the charged compounds to a mammalian subject; and for preparation of a synthetic lenticule (all claimed), e.g. is useful as a bioadhesive, for augmenting soft tissues (e.g. urinary, anal and esophageal sphincters, in the treatment of scars and rhytids) and hard tissues (e.g. in repair and replacement of bone and/or cartilaginous tissue, and as replacement material for synovial fluid in osteoarthritic joints, nucleus pulposus of a damaged intervertebral disk and vitreous) within the body of a mammalian subject; as a localized drug delivery matrix for delivering various types of drugs, other biologically active agents (e.g. growth factors, enzymes, hormones, antibiotics), living cells (e.g. mesenchymal stem cells including osteoblasts, chondrocytes, fibroblasts; neurectodermal cell and epithelial cells) and genes (e.g. genetic material from natural sources, synthetic nucleic acids, DNA, anti-sense-DNA and RNA), to a desired site of administration; for blocking

surface of the physiological lumen (e.g. blood vessel, Fallopian tube

medical

as balloon catheterization, removal of endometrial tissue.

ADVANTAGE - The composition is optically clear and is biocompatible i.e. leaves no toxic, potentially inflammatory or immunogenic reaction products at the tissue site of administration. Hence does not require a skin test prior to beginning treatment as compared to the prior art compositions. The composition has a high compression strength and high swellability and elasticity and has an unusually high tackiness. The composition is not subject to enzymatic cleavage by matrix metalloproteinases and is therefore not readily degradable in vivo, thus exhibits a greater long-term persistence in vivo compared to prior art collagen compositions. The manufacturing of the composition can be highly controlled rendering more consistent quality of products. The composition is not easily degraded in vivo, hence cells and genes entrapped within the composition is isolated form the patient's own cells and as such do not provoke immune response in the patient. Further the potential for restenosis due to the degradation of the coating is also minimized, which is made possible by the composition having a net neutral charge. The composition reduces joint pain and improves joint function by restoring a soft hydrogel network in the joint.

Dwg.0/0

TECH UPTX: 20020717

TECHNOLOGY FOCUS - POLYMERS - Preferred Components: (P1) contains m nucleophilic groups (preferably amino or thiol, especially amino group) and is selected from either:

(a) a synthetic polypeptide that contains at least two nucleophilic groups selected from a primary amino group (preferably lysine, especially poly(lysine)) or a thiol group (preferably cysteine); or preferably

(b) a polyethylene glycol (PEG) that is modified to contain at least two nucleophilic groups selected from a primary amino group or a thiol group.

(P2) contains n electrophilic groups (preferably succinimidyl or succidyl, especially succinimidyl groups) and is selected from either

(a) a synthetic hydrophilic polymer (preferably PEG **derivative**) containing at least two electrophilic groups (preferably succinimidyl groups); or preferably

(b) a synthetic hydrophobic polymer which is chemically **derivatized** to contain at least two succinimidyl groups and is selected from disuccinimidyl suberate, bis(sulfosuccinimidyl) suberate, dithiobis (succinimidylpropionate), bis(2-succinimidooxycarbonyloxy) ethyl sulfone, or 3,3'-dithiobis (sulfosuccinimidylpropionate) or their analogs or **derivatives**; or a polyacid selected from trimethylolpropane-based tricarboxylic acid, di(trimethylol propane)-based tetracarboxylic acid, heptanedioic acid, heptanedioic acid, octanedioic acid or hexadecanedioic acid.

The first synthetic polymer has m nucleophilic groups, and the second synthetic polymer has n nucleophilic groups.

m, n = at least 2 (preferably at least 3);

m+n = at least 5

When m is at least 3, n is 2, and when n is at least 3, m is 2. The composition further comprises a naturally occurring polysaccharide (preferably **glycosaminoglycan** selected from hyaluronic acid

derivative

negatively charged compound is succinylated collagen or glycosaminoglycan derivative

hyaluronate, keratan sulfate, keratosulfate, sodium chondroitin sulfate A, B and C, **heparin**, esterified chondroitin sulfate C and/or esterified **heparin**. The positively charged compound is methylated collagen or **glycosaminoglycan derivative** selected from esterified **deacetylated** hyaluronic acid, esterified **deacetylated** desulfated chondroitin sulfate A and C, **deacetylated** desulfated keratan sulfate, **deacetylated** desulfated keratosulfate, esterified desulfated **heparin** and/or **chitosan**.

Preferred Method: The introduction of the composition into the tissue, (P1) and (P2) are contained within separate barrels of and administered from a dual compartment syringe and the method further involves an additional step of forming a mixture by mixing (P1) and (P2) before administration; and administering the mixture within 60 seconds of mixing. The preparation of synthetic lenticule further includes the naturally occurring protein.

TECHNOLOGY FOCUS - BIOLOGY - Preferred Method: In step (1c), either one of the first and the second surfaces is a native tissue surface and the other of the first and the second surfaces is a non-native tissue surface or a surface of a synthetic implant, or both the first and the second surfaces are native tissue surfaces.

L20 ANSWER 8 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-536205 [59] WPIDS
DNN N2001-398300 DNC C2001-159528
TI Material comprising branched polymer supporting a biomimetic material, is useful for coating **medical** devices and for delivery of pharmaceutically active agents.
DC **A96** B04 B05 B07 **D22** P34
IN EVAGOROU, E; MALIK, N
PA (EVAG-I) EVAGOROU E; (MALI-I) MALIK N
CYC 94
PI WO 2001041827 A1 20010614 (200159)* EN 42p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001021904 A 20010618 (200161)
ADT WO 2001041827 A1 WO 2000-GB4685 20001207; AU 2001021904 A AU 2001-21904 20001207
FDT AU 2001021904 A Based on WO 200141827
PRAI GB 1999-28956 19991207
AB WO 200141827 A UPAB: 20011012
NOVELTY - An internally supported biomimetic material or coating comprises a branched polymer supporting a biomimetic material.
DETAILED DESCRIPTION - A material comprises a combination of a biomimetic material and a substrate adapted to allow the biomimetic

medical ;
;
(b) **medical** devices or tools including the material; and

is associated with the substance in a reaction conducted in an aqueous solution and/or a solvent.

USE - The material may be used to coat or interact with a **medical** device, e.g. an ocular or intraocular lens, a stent, an artificial organ, prosthetic device, pacemaker leads, artificial heart valves, vascular grafts, a limb, glaucoma drainage device, dialysis or ultra-filtration membrane, thoracic drain catheter, vascular graft, urological catheter or device, guidewire, introducer sheath, extracorporeal circuit component, arterial filter, heat exchanger, or a hypodermic syringe needle; or for delivery of a pharmaceutically active agent (claimed). The material may also be used in industrial or agrochemical processes.

Dwg.0/1

TECH UPTX: 20011012

TECHNOLOGY FOCUS - POLYMERS - Preferred Substances: The substance adapted to allow the biomimetic material to adopt the appropriate structural orientation is a branched polymer, and is a dendrimer, an arborol, cascade polymer, tubular polymer, star polymer, hyperbranched polymer, or a hyper comb-branched polymer. The branched polymer may be crosslinked before combination with the biomimetic, or the branched polymer/biomimetic material combination is crosslinked.

Preferred Biomimetic Material: The biomimetic material is phosphorylcholine, a **polysaccharide** (e.g. cellulose, starch, **maltose**, dextrose, dextran, an algin or alginate), a **mucopolysaccharide** (e.g. **chitin** or **chitosan**) or a **glycosaminoglycan** (hyaluronic acid, chondroitin, dermatan, keratin or **heparin**, or their sulfates), syalic acid or lectin, or their **derivatives** or analogs, e.g. ceramide.

Preferred Material: The material may be in the form of a hydrogel. The molecular weight of the branched polymer is 500 to 1,000,000 Da. A spacer/linker, e.g. peptide or polymer (such as polyethylene glycol), may be introduced between the substance and the biomimetic. The substance and biomimetic material are associated by covalent, Van der Waals, hydrophobic, electrostatic or co-ordinate, neutral, or hydrogen bonding. The material may have at least 1 functional group of the branched polymer exposed, which may be attached to a polymer chain.

L20 ANSWER 9 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-457121 [49] WPIDS
CR 2001-482866 [52]
DNC C2001-138180
TI Preparation of a polysaccharide containing material having at least one desired structural, chemical, physical, electrical and/or mechanical property.
DC A11 A97 D16 F01 F09
IN LEVY, I; NUSSINOVITCH, A; SHOSEYOV, O
PA (CBDT-N) CBD TECHNOLOGIES LTD; (YISS) YISSUM RES DEV CO HEBREW UNIV JERUSALEM; (YISS) YISSUM RES & DEV CO
CYC 95
PI WO 2001034091 A2 20010517 (200149)* EN 121p

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

ADT WO 2001034091 A2 WO 2000-IL708 20001102; AU 2001011729 A AU 2001-11729 20001102; EP 1230374 A2 EP 2000-973191 20001102, WO 2000-IL708 20001102

FDT AU 2001011729 A Based on WO 200134091; EP 1230374 A2 Based on WO 200134091

PRAI US 1999-166389P 19991118; US 1999-164140P 19991108

AB WO 200134091 A UPAB: 20020924

NOVELTY - Preparation of material containing polysaccharide (I), comprises contacting polysaccharide structures of (I) with a polysaccharide binding domain containing composition before, during and/or after processing the polysaccharide structures into (I). The polysaccharide material has at least one desired structural, chemical, physical, electrical and/or mechanical property.

DETAILED DESCRIPTION - Preparation of (I) comprises contacting polysaccharide structures of (I) with a polysaccharide binding domain containing composition before, during and/or after processing the polysaccharide structures into (I). (I) Has at least one desired structural, chemical, physical, electrical and/or mechanical property.

INDEPENDENT CLAIMS are also included for the following:

(1) a composition comprising the polysaccharide containing material having a polysaccharide binding domain containing composition bound to the polysaccharide structures;

(2) a composition as in (1), in which the polysaccharide binding domain containing composition includes at least two covalently coupled polysaccharide binding domains forming a polysaccharide binding domain coupler crosslinking the polysaccharide structures;

(3) a composition as in (1), in which the polysaccharide binding domain containing composition includes at least one polysaccharide binding domain and a functionalizing group or a hydrophobic group or a hydrophilic group or a (photo)chemical reactive group being covalently coupled thereto;

(4) a composition comprising a polysaccharide binding domain coupler including at least two covalently coupled polysaccharide binding domains;

(5) a nucleic acid construct comprising a polynucleotide encoding a fusion protein including at least two polysaccharide binding domain; and

(6) manufacturing (I) containing at least one desired structural, chemical, physical, electrical and/or mechanical property, comprises contacting polysaccharide structures of (I) with a polysaccharide binding domain during or after processing the structures into (I), and hence covalently coupling at least one group to the binding domain forming (I) having the desired structured, chemical, physical, electrical and/or mechanical property.

USE - The method is used to alter the structural, chemical, physical, electrical and mechanical properties of polysaccharide materials such as paper, yarns, fibers and textiles, using biological crosslinking agents.

ADVANTAGE - The polysaccharide containing materials have improved mechanical properties such as wet strengths, durability and elasticity. The polysaccharide binding domain reagent can be applied in the forming stage in fluting paper manufacture which eliminates the sizing step. Use

polysaccharide containing material is selected from paper, textile, yarn and fiber. The polysaccharide binding domain containing composition includes:
(i) a polysaccharide binding domain; and
(ii) a group (Z) covalently coupled thereto.
Group Z is selected from at least one additional polysaccharide binding domain, another protein, a hydrophobic group, a hydrophilic group, a biological moiety, an enzyme, a chemical reactive group, a chemical **photoreactive** group, a lipase, a lacase, a protein A-antibody, a peptide, a polypeptide, a hydrocarbon or hydrocarbon **derivative**, a fatty acid **derivative**, an electrically charged group, an ionic group, a silicon binding group, a polymer binding group, a metal, a metallothionein-like protein, ferritin, a metal binding group, a bacterial siderophores, a metallothionein, a thiol group, an aldehyde, a maleimide, a hydrazide, an epoxide, a carbodiimide and a phenylazide.
The polysaccharide binding domain comprises cellulose or starch, or is capable of binding to cellulose, starch or **chitin**, or is a glucan-binding domain or includes streptococcal glucan-binding repeats.
Preferred Properties: The structural property is selected from a predetermined level of crosslinks between the polysaccharide structures, a predetermined aggregation of the polysaccharide structures and a predetermined surface texture of the polysaccharide containing material. The chemical property is selected from predetermined hydrophobicity, a predetermined hydrophilicity, a predetermined wet-ability, a predetermined chemical reactivity, a predetermined photochemical reactivity, a predetermined functionality and a predetermined surface tension. The physical property is selected from predetermined Young's modulus, a predetermined strain at maximum load, a predetermined energy to break point, a predetermined water absorbency, a predetermined swellability and a predetermined toughness. The electrical property is selected from a predetermined surface charge and a predetermined electrical conductivity. The mechanical property is selected from a predetermined tensile strength, a predetermined resistance to shear, a predetermined abrasion resistance, a predetermined frictional coefficient, a predetermined elasticity and a predetermined wet strength.
Preferred Acid: The nucleic acid further comprises at least one additional polynucleotide encoding at least one linker peptide coupling the at least two polysaccharide binding domains.

L20 ANSWER 10 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-412362 [44] WPIDS
DNN N2001-305026 DNC C2001-125004
TI Microbicide and preservative, comprises salt formed by reacting thiamin **derivative** and specific surfactants and **chitosan derivative** obtained by reacting **chitosan** and **saccharides** having **reducible terminals**.
DC B04 D13 D21 **D22** P34
PA (ICHP) ICHIMARU PHARCOS INC; (NETE-N) NETEKKU KK; (YAES-N) YAESU SUISAN KAGAKU KOGYO KK
CYC 1

[illegible] **derivative** and surfactants [illegible] esters or alkyl sulfonic acid and/or their salts, and **chitosan derivative** [illegible] chitosan

saccharides having **reducible terminals**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also claimed for:

(1) a skin external preparation comprising microbicide and preservative;

(2) a fiber cleaner; and

(3) a detergent and deodorizer comprising microbiocidal and preservative.

ACTIVITY - Antibacterial, dermatological.

MECHANISM OF ACTION - None given.

USE - The microbiocide and preservative can be used as a drug, in cosmetics and as a quasi drug, a bath agent, a fiber treating agent e.g. softening agent, bleaching agent, sizing agent and stain removing adjuvant, a detergent for washing, cleaning and deodorizing toilet fixtures, and as preservative for food and beverage products.

ADVANTAGE - The agent has excellent microbiocidal and preservative effect, and is safe to use. The decomposition and contamination of food products can be prevented effectively. The microbicide and preservative was administered orally to DDY type mice at a dose of 2000 mg/kg to evaluate toxic symptoms. The symptoms were observed in time dependent manner and no toxic effects were observed.

Dwg.0/0

TECH UPTX: 20010809

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Components: The thiamin derivative is thiamine hydrochloride, thiamine sulfate, thiamine nitrate, thiamine monophosphate, o-benzoyl thiamine disulfide, butyryl thiamine disulfide or thiamine tetrahydro furfuryl disulfide. The saccharides having **reducible terminals** is aldose, ketose, glucose, galactose, amino sugars such as glucose amine, **maltose**, **lactose** or dextran (disclosed).

L20 ANSWER 11 OF 26 WPIDS (C) 2003 THOMSON DERWENT

AN 2001-366833 [38] WPIDS

CR 1997-350664 [32]; 1999-180053 [15]; 2000-374511 [32]; 2001-158209 [16]; 2002-424869 [45]

DNC C2001-112415

TI Polymer composition useful as bioadhesives, comprises a first synthetic polymer with nucleophilic groups, and a second synthetic polymer with electrophilic groups.

DC **A96** B07 **D22**

IN BERG, E A; DELUSTRO, F A; RHEE, W M

PA (BERG-I) BERG E A; (DELU-I) DELUSTRO F A; (RHEE-I) RHEE W M; (COHE-N) COHESION TECHNOLOGIES INC

CYC 1

PI US 20010003126 A1 20010607 (200138)* 35p

US 6323278 B2 20011127 (200175)

ADT US 20010003126 A1 CIP of US 1995-539799 19951005, Cont of US 1996-769806 19961218, Cont of US 1999-229851 19990113, Cont of US 1999-302852 19990430, US 2000-733739 20001208; US 6323278 B2 CIP of US 1995-573799 19951218, Cont of US 1996-769806 19961218, Cont of US 1999-229851 19990113, Cont of US 1999-302852 19990430, US 2000-733739 20001208

AB [illegible]

NOVELTY - A composition comprising a first synthetic polymer with [illegible]

groups. The nucleophilic groups and electrophilic groups are capable of reacting to form covalent bonds between the first synthetic polymer and the second synthetic polymer which results in formation of a three-dimensional matrix.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a composition comprising a first polyethylene glycol having primary amino groups, and a second polyethylene glycol having succinimidyl groups;

(2) a method for effecting the nonsurgical attachment of a first surface to a second surface, comprising:

(a) providing a first synthetic polymer containing nucleophilic groups and a second synthetic polymer containing electrophilic groups;

(b) mixing the first synthetic polymer and the second synthetic polymer to initiate crosslinking;

(c) applying the mixture to a first surface before substantial crosslinking has occurred; and

(d) contacting the first surface with a second surface to effect adhesion between the first surface and the second surface;

(3) a method for introducing a crosslinked synthetic polymer composition into a tissue within a body of a mammalian subject, comprising:

(a) providing a first synthetic polymer containing nucleophilic groups and a second synthetic polymer containing electrophilic groups;

(b) administering the first synthetic polymer and the second synthetic polymer simultaneously to the tissue; and

(c) allowing the first synthetic polymer and the second synthetic polymer to crosslink in situ;

(4) a method for preventing the adhesion of a first tissue and a second tissue, comprising:

(a) providing, a first synthetic polymer containing nucleophilic groups and a second synthetic polymer containing electrophilic groups;

(b) forming a mixture by mixing the first synthetic polymer and the second synthetic polymer to initiate crosslinking;

(c) applying the mixture to the first tissue before substantial cross linking has occurred; and

(d) allowing the first synthetic polymer and the second synthetic polymer to continue crosslinking in situ;

(5) a method for coating a surface of a synthetic implant, comprising:

(a) providing a first synthetic polymer containing nucleophilic groups and a second synthetic polymer containing el electrophilic groups;

(b) forming, a mixture by mixing the first synthetic polymer and the second synthetic polymer to initiate crosslinking;

(c) applying the mixture to a surface of a synthetic implant; and

(d) allowing the first synthetic polymer and the second synthetic polymer to crosslink with each other on the surface of the synthetic implant;

(6) a method for preparing a negatively charged compound-containing matrix useful for delivery of a negatively charged compound to a mammalian [illegible]

[illegible]

(b) allowing the first synthetic polymer and the second synthetic

synthetic polymer matrix; and

(d) reacting the matrix with the negatively charged compound; and

(7) a method for preparing a positively charged compound-containing matrix useful for delivery of a positively charged compound to a mammalian subject, comprising:

(a) providing a first synthetic polymer containing nucleophilic groups and a second synthetic polymer containing electrophilic groups;

(b) forming a mixture by mixing the first synthetic polymer and the second synthetic polymer to initiate crosslinking, where the second synthetic polymer is present in the mixture in molar excess compared to the second synthetic polymer;

(c) allowing the first synthetic polymer and the second synthetic polymer to continue cross linking to form a negatively charged crosslinked synthetic polymer matrix; and

(d) reacting the matrix with the positively charged compound; and

(8) a method for making a synthetic lenticule, comprising:

(a) providing a first synthetic polymer containing nucleophilic groups and a second synthetic polymer containing electrophilic groups;

(b) forming a mixture by mixing the first synthetic polymer and the second synthetic polymer to initiate crosslinking;

(c) placing the mixture into a lenticular shaped mold or onto a surface of an eye; and

(d) allowing the first synthetic polymer and the second synthetic polymer to continue crosslinking to form a clear lenticule.

USE - Crosslinked polymer compositions useful as bioadhesives, for tissue augmentation, in the prevention of surgical adhesions, and for coating surfaces of synthetic implants, as drug delivery matrices and for ophthalmic applications.

ADVANTAGE - The polymer compositions has high compression strength and high swellability, are non-immunogenic and have long-term persistence in vivo.

Dwg.0/18

TECH UPTX: 20010711

TECHNOLOGY FOCUS - POLYMERS - Preferred Composition: The first synthetic polymer has m nucleophilic groups, and the second synthetic polymer has n nucleophilic groups, where m and n are each greater than or equal to 2, and where m + n is greater than or equal to 5, preferably m is greater than or equal to two, and n = 2, more preferably m = 2, and n is greater than or equal to two, especially m and n are each greater than or equal to 3.

The first synthetic polymer is a synthetic polypeptide that contains two or more nucleophilic groups selected from a primary amino group and a thiol group, preferably contains two or more lysine residues, more preferably contains two or more cysteine residues. The first synthetic polymer is a polyethylene glycol that has been modified to contain two or more nucleophilic groups selected from a primary amino group and a thiol group.

The second synthetic polymer is a synthetic hydrophilic polymer containing two or more electrophilic groups, preferably succinimidyl groups.

[illegible] and **derivatives**. The hydrophilic polymer is a polyacid selected from trimethylolpropanebased tricarboxylic acid, di/trimethylol

and hexadecanedioic acid.
The composition further comprising a polysaccharide or a protein, where polysaccharide is a **glycosaminoglycan** (selected from hyaluronic, **chitin**, chondroitin sulfate A, B, or C, keratosulfate, **heparin** or their **derivatives**) and the protein is collagen or a **derivative**. The negatively charged compound is succinylated collagen.
Preferred Method: In method (2) one of the first surface and second surfaces comprise native tissue, non-native tissue or synthetic implant. In method (3) the tissue is soft tissue, preferably hard tissue. The first synthetic polymer and the second synthetic polymer are contained within separate barrels of and administered from a dual compartment syringe. The method (3) comprising the additional step of forming a mixture by mixing the first synthetic polymer and the second synthetic polymer before administration, where the mixture is administered within 60 seconds of mixing. In method (5) the synthetic implant is selected from artificial blood vessels, artificial heart valves, vascular grafts and/or vascular stent, surgical membranes, surgical meshes, or breast implants. The mixture has a net neutral charge. Method (8) further comprises a collagen protein.

L20 ANSWER 12 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-308366 [32] WPIDS
DNC C2001-095258
TI Sustained release microspheres for administrating drugs, comprises a carrier protein, a water soluble polymer, a polyanionic polysaccharide and divalent calcium or magnesium.
DC **A96** B04
IN BLIZZARD, C D; BROWN, L R; RASHBA-STEP, J; RISKE, F J; SCOTT, T L
PA (EPIC-N) EPIC THERAPEUTICS INC; (BLIZ-I) BLIZZARD C D; (BROW-I) BROWN L R; (RASH-I) RASHBA-STEP J; (RISK-I) RISKE F J; (SCOT-I) SCOTT T L
CYC 95
PI WO 2001028524 A1 20010426 (200132)* EN 71p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001011980 A 20010430 (200148)
EP 1223917 A1 20020724 (200255) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
US 6458387 B1 20021001 (200268)
US 2003059474 A1 20030327 (200325)
ADT WO 2001028524 A1 WO 2000-US28200 20001012; AU 2001011980 A AU 2001-11980 20001012; EP 1223917 A1 EP 2000-973477 20001012, WO 2000-US28200 20001012; US 6458387 B1 US 1999-420361 19991018; US 2003059474 A1 Cont of US 1999-420361 19991018, US 2002-245776 20020917
PRT AU 2001011980 A Based on WO 2001028524; EP 1223917 A1 Based on WO

A [illegible] comprising a [illegible], a first [illegible] agent that is a polyanionic polysaccharide, and a second complexing agent [illegible] comprising a divalent metal cation comprising calcium or magnesium, are new.

following:

(1) a syringe containing a single dose of the microspheres, including a needle having a bore size of 14-30 gauge; and

(2) forming a microsphere comprising:

(a) forming an aqueous mixture of (I), (II), (III) and (IV);

(b) allowing the microspheres to form in the aqueous mixture; and

(c) stabilizing the microspheres, preferably by contacting the microspheres with a crosslinking agent and/or exposing the microspheres to an energy source, preferably heat.

USE - The microspheres are useful for administration of drugs, for a wide variety of separations, diagnostic, therapeutic, industrial, commercial and research purposes e.g. in vivo diagnosis (e.g. where the microspheres can include a macromolecule such as an immunoglobulins or cell receptor labeled with a detectable label). They can be labeled for diagnosis of proliferative disorders such as cancer, or can be used for purification of molecules from complex mixtures, as reagents for detection or quantification of specific molecules or for production of molecules such as antibodies. They can also be used as adjuvants for vaccine production by injection into e.g. mice or rabbits to trigger enhanced immune responses. The microspheres can also be used in cleaning formulations such as enzyme particles for addition to detergents, cosmetics such as the formation of collagen particles to be suspended in a lotion or cream, ink or paint.

ADVANTAGE - Prior art micro particles or beads were difficult and expensive to produce and had a wide size distribution, often lacked uniformity and failed to exhibit long term release kinetics when the concentration of active ingredients was high. The new microspheres are of a dimension which permits the delivery using a needleless syringe, eliminating disposal problems inherent to needles which must be disposed as biohazard waste products. The microspheres also have qualities suitable for delivery by other parenteral and non-parenteral routes.

Dwg.0/13

TECH UPTX: 20010611

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preparation: The aqueous mixture of (2) is preferably prepared by combining (I)-(IV) simultaneously. The method further comprises contacting the microsphere with a solution of an active agent (VI) to be incorporated into the microsphere, preferably to levels of at least 60 %, particularly at least 90, especially at least 98 %. The microspheres are further stabilized again by contacting with a crosslinking agent, Preferred Composition: The microsphere contains 40 to less than 100 % polymer. The microsphere has a smooth surface that includes channel openings of diameter less than 1000 angstroms and does not contain detectable oil or organic solvent. The microsphere further comprises a therapeutic agent (VI).

TECHNOLOGY FOCUS - PHARMACEUTICALS - (VI) comprises hormones, antibiotics, other antiinfectives, hematopoietics, thrombopoietics, antidementia agents, antiviral agents, antitumor agents, chemotherapeutic agents, antipyretics, analgesics, antiinflammatories, Antiulcer agents, [illegible], conjugates or complexes of small molecules and proteins or their mixtures, or organic or inorganic synthetic pharmaceutical drugs, preferably

leuprolide or leuprolide acetate.

TECHNOLOGY FOCUS - POLYMERS - Preferred Microspheres: (I) comprises an albumin or an immunoglobulins. The protein comprises albumins (preferably human serum albumin), HAS, bovine serum albumin, immunoglobulin (Ig)G, IgM, insulin, human growth hormone (hGH), lysozyme, alpha-lactoglobulin, basic fibroblast growth factor, vascular endothelial growth factor (VEGF), chymotrypsin, trypsin, carbonic anhydrase, ovalbumin, phosphorylase b, alkaline phosphatase, beta-galactosidase, fibrinogen, poly-l-lysine, deoxyribonucleic acid, immunoglobulins (e.g. antibodies), casein, collagen, soy protein or gelatin. (II) comprises a carbohydrate based polymer, such as methyl cellulose, carboxymethylcellulose-based polymers, dextran, polydextrose, **derivatized chitins**, **chitosan** and starch (including hetastarch) and their **derivatives**, polyaliphatic alcohols such as polyethylene oxide or its **derivatives** such as polyethylene glycol (PEG), PEG-acrylates, polyethylene imine, polyvinyl acetate or their **derivatives**, polyvinyl polymers such as polyvinyl alcohol, polyvinylpyrrolidone, polyvinyl phosphate, polyvinylphosphinic acid or t heir **derivatives**, polyacrylic acids or their **derivatives** , polyorganic acids such as polymaleic acid or their **derivatives** , polyaminoacids such as polylysine and polyamino acids such as polyamino tyrosine or their **derivatives**, co-polymers and block co-polymers such as poloxamer 407 or Pluronic L-101 (RTM) polymer or their **derivatives**, tertiary-polymers or their **derivatives**, polyethers such as poly(tetramethylene ether glycol) or their **derivatives**, naturally occurring polymers such as zein and pullulan or their **derivatives**, polyimids such as polyn-tris(hydroxymethyl)methylmethacrylate or their **derivatives** , surfactants such as polyoxyethylene sorbitan or their **derivatives**, polyesters such as poly(ethylene glycol)(n)monomethyl ether mono(succinimidylsuccinate)ester or their **derivatives**, branched or cyclo polymers such as branched PEG and cyclodextrins or their **derivatives** or polyaldehydes such as poly(perfluoropropylene oxide-b-perfluoroformaldehyde) or its **derivatives**, preferably hydroxyethyl starch, especially a carbohydrate-based polymer, particularly hetastarch. (III) comprises dextran sulfate, galacturonic acids, alginates, mannuronic acid, glucuronic acid, hyaluronic acid, chondroitin sulfates, **heparin**, **chitin**, **chitosan**, **glycosaminoglycans**, proteoglycans, or cationic complexing agents such as complexing agents having a positive charge, preferably dextran sulfate.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Microsphere: The divalent metal cation comprises calcium or magnesium.

L20 ANSWER 13 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-202642 [20] WPIDS
DNN N2001-144617 DNC C2001-060123
TI Biocompatible coating platform for **medical** devices with e.g.

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM [illegible]

NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2000063687 A 20010219 (200129)
US 6309660 B1 20011030 (200172)
ADT WO 2001008718 A1 WO 2000-US20093 20000724; AU 2000063687 A AU 2000-63687 20000724; US 6309660 B1 US 1999-362468 19990728
FDT AU 2000063687 A Based on WO 200108718
PRAI US 1999-362468 19990728
AB WO 200108718 A UPAB: 20010410
NOVELTY - Universal, biocompatible coating platform for **medical** articles includes (i) a polyelectrolyte molecular film and (ii) a cross-linked interpenetrating network (IPN) which includes a multifunctional polymer and a cross-linking agent (CA).

DETAILED DESCRIPTION - Universal, biocompatible coating platform for the surface of an article intended to contact physiological fluids or tissues, comprises: (a) a molecular film which has a first water-soluble, biocompatible polymer (P1) ionically bound to a second water-soluble, biocompatible polymer (P2); and (b) a cross-linked, interpenetrating network (IPN) which has (i) at least one multifunctional, biocompatible polymer (P3) and (ii) at least one cross-linking agent (CA), covering the molecular film.

ACTIVITY - Thrombolytic.

MECHANISM OF ACTION - None given.

USE - The coating platforms can be used to coat articles intended for contact with physiological fluids or tissues, e.g. contact lenses, ocular implants, catheters, **medical** tubing, cardiotomy reservoirs and heaters, extracorporeal blood circuits, heart valves, stents, pacemaker units, synthetic organs, artificial hips or joint prostheses.

ADVANTAGE - The platforms can be used to coat **medical** devices with heterologous surfaces, e.g. combinations of polymers, metals and glasses. They can be used to bind a variety of different biologically active molecules to the surfaces while retaining the activities of these molecules.

Dwg.0/0

TECH UPTX: 20010410
TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Materials: The platform can also comprise a biocompatible, biologically active molecule ionically bound to the surface of the IPN. This active molecule is especially selected from dextran, dextran salts, cyclodextrans, chondroitin, chondroitin salts, **chitosan**, **chitin** **derivatives**, dermatan salts, starch, starch **derivatives**, pectin, **glycosaminoglycans**, alginates, agar, gum, fructose, **heparin** and **heparin** salts. Alternatively, the IPN can include at least one biologically active compound. This compound is, e.g., a protease inhibitor, antibacterial agent, antiparasitic agent, antiviral agent, antifungal agent, amoebicidal agents, antihistamine, antigen, anti-inflammatory, chelating agents, anticholinergic agent,

[illegible]

copolymers of dimethylaminoethylmethacrylate and ammonio methacrylate. P2 is a polyanion selected from dextran, dextran salts, cyclodextrans, chondroitin, chondroitin salts, **chitosan**, **chitin derivatives**, dermatan salts, starch, starch **derivatives**, pectin, **glycosaminoglycans**, alginates, agar, gum, fructose, **heparin** and **heparin** salts. P3 is a polycation which is selected from those given above for P1. The cross-linking agent is selected from epoxides, isocyanates, aldehydes and carbodiimides, e.g., glycidyl esters, erythritol anhydride, polyglycerol polyglycidyl ether, terephthalic acid diglycidyl ester, toluene diisocyanate, dicyclohexylmethane diisocyanate, dicyclohexylcarbodiimide, formaldehyde or glutaraldehyde. Preparation: The platform can be prepared by a claimed process comprising: (a) applying P1 to the surface of the article; (b) applying P2 to the surface of the article; and (c) applying a mixture of P3 and at least one CA to the surface.

L20 ANSWER 14 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-041105 [05] WPIDS
DNC C2001-011970
TI Pharmaceutical composition useful for stimulating epithelial cell proliferation and basal keratinocytes for wound healing comprises keratinocyte growth factor-2, in liquid or lyophilized forms.
DC **A96** B04
IN CHOPRA, A; GENTZ, R L; KAUSHAL, P; KHAN, F; SPITZNAGEL, T; UNSWORTH, E
PA (CHOP-I) CHOPRA A; (GENT-I) GENTZ R L; (HUMA-N) HUMAN GENOME SCI INC; (KAUS-I) KAUSHAL P; (KHAN-I) KHAN F; (SPIT-I) SPITZNAGEL T; (UNSW-I) UNSWORTH E
CYC 94
PI WO 2000072872 A1 20001207 (200105)* EN 101p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000055932 A 20001218 (200118)
EP 1196187 A1 20020417 (200233) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
KR 2001109820 A 20011206 (200255)
CN 1359299 A 20020717 (200368)
JP 2003500456 W 20030107 (200314) 138p
ADT WO 2000072872 A1 WO 2000-US15186 20000602; AU 2000055932 A AU 2000-55932 20000602; EP 1196187 A1 EP 2000-941186 20000602, WO 2000-US15186 20000602; KR 2001109820 A KR 2001-715493 20011201; CN 1359299 A CN 2000-809802 20000602; JP 2003500456 W JP 2000-620480 20000602, WO 2000-US15186 20000602
FDT AU 2000055932 A Based on WO 200072872; EP 1196187 A1 Based on WO 200072872; JP 2003500456 W based on WO 200072872

ACTIVITY - Vulnerary; antiinflammatory; antipsoriatic; antidiabetic; ophthalmological; hemostatic. No biological data is given.

MECHANISM OF ACTION - Soft tissue growth or regeneration promoter; keratinocyte cell growth and proliferation stimulator.

USE - Used for promoting or accelerating soft tissue growth, for wound healing or treating mucocytis or inflammatory bowel disease. The KGF-2 polypeptides stimulate keratinocyte cell growth and proliferation and (I) is used to stimulate epithelial cell proliferation and basal keratinocytes for wound healing and to stimulate hair follicle production and healing of dermal wounds. These wounds may be of superficial nature or may be deep and involve damage of the dermis and the epidermis of skin. (I) Also promotes the healing of anastomotic and other wounds caused by surgical procedures in individuals which both heal wounds at a normal rate and are healing impaired. (I) may also be used to stimulate differentiation of cells, for example muscle cells, nervous tissue, prostate cells and lung cells.

(I) Is clinically useful in stimulating wound healing of wounds including surgical wounds, excisional wounds, deep wounds involving damage of the dermis and epidermis, eye tissue wounds, dental tissue wounds, oral cavity wounds, diabetic ulcers, dermal ulcers, cubitus ulcers, arterial ulcers, venous stasis ulcers, and burns resulting from heat exposure to extreme temperatures of heat or cold, or exposure to chemicals. (I) is useful for promoting the healing of wounds associated with ischemia and ischemic injury, e.g. chronic venous leg ulcers caused by an impairment of venous circulatory system return and/or insufficiency etc. The KGF-2 polypeptides in the formulation are used to stimulate epithelial cell proliferation and basal keratinocytes for the purposes of treating burns and skin defects such as psoriasis and epidermolysis bullosa, to increase the adherence of skin grafts to a wound bed and to stimulate re-epithelialization from the wound bed to reduce the side effects of gut toxicity that result from radiation, chemotherapy treatments or viral infections and to treat diseases and conditions of the liver, lung, kidney.

KGF-2 can be used to treat inflammatory bowel diseases, diabetes, thrombocytopenia, hypofibrinogenemia, hypoalbuminemia, hemorrhagic cystitis, xerostomia, keratoconjunctivitis sicca. KGF-2 can also be used to stimulate the epithelial cells of the salivary glands, lacrimal glands and stimulating the epithelial cells of the salivary glands, lacrimal glands and stimulating re-epithelialization of the sinuses and the growth of nasal mucosa.

ADVANTAGE - The composition is stable over prolonged periods of storage, has increased pharmacological activity or effectiveness of the polypeptide and/or allow facile application or administration of the polypeptide in therapeutic regimens.

Dwg.0/5

TECH UPTX: 20010124

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: (I) Also comprises a chelating agent such as EDTA and a tonicifier such as NaCl, glycine, sucrose and/or mannitol, in concentrations of 0-10 (preferably 1) mM and 0-150 mM (preferably 125) respectively, the pH [illegible]

[illegible] polypeptide [illegible] and has a pH of [illegible].

Alternatively, I comprises 1 mg KGF-2, 5% sucrose, 20 mM sodium citrate, [illegible]

diluent in (I). The pH of (I) is from 5.5-6.5 (preferably 6).
The buffer is a phosphonic, acetic, aconitic, citric, glutaric, malic or succinic carbonic acid, or an alkali or alkaline earth salt of the acids, present in concentrations of 5-30 mM. Preferably the buffer is a citrate salt present in a concentration of 10-20 mM. (I) Comprises a stabilizing amount of an antioxidant or thiol compound. The composition is maintained at a temperature at or below -20degreesC.
(I) Also comprises a bulking agent such as sucrose, glycine, mannitol and/or trehalose. Preferably, the bulking agent is sucrose or a mixture of sucrose and glucose is present in concentrations of 2-10% w/v. (I) comprises 7% sucrose, 5% mannitol, 8% trehalose or 2% glycine and 0.5% sucrose. The pH of (I) comprising the bulking agent is 6.2 and in which 90% of diluent water is removed by lyophilization and is reconstituted with an amount of sterile water containing an antioxidant comprising 0.01-2% w/v monothioglycerol, 0.01-2% w/v ascorbic acid and/or 0.01-2% w/v methionine, effective to maintain isotonic conditions of 290 mOsm. Buffer is added to this composition in concentrations of 5-50 mM. Preferably, citrate is added at a concentration of 10 mM.
The composition also comprises a thickening agent and a gelling agent to raise the viscosity. (I) Also comprises a thickening agent in a concentration of 0-5% w/v, to increase the viscosity to 50-10000 (preferably 200-300) cps. The thickening agent is a water soluble etherified cellulose such as alkyl cellulose, hydroxyalkyl cellulose, carboxyalkyl cellulose or alkylhydroxyalkyl cellulose (preferably methylcellulose, hydroxyethyl cellulose, hydroxy propyl cellulose, hydroxy propyl methyl cellulose, or carboxymethyl cellulose), or a high molecular weight polymer of acrylic acid crosslinked with allylsucrose or an allyl ether of pentaerythritol. The etherified cellulose as a molecular weight of 50000-700000 (preferably 80000-240000) and is present in a concentration of 0-20 (preferably 2-8) wt.%. In this case citrate is added at a concentration of 10-20 mM and sucrose is added at a concentration of 0.1-5% and the thickening agent is added directly to the liquid formulation and thereafter lyophilized.
Alternatively, the thickening agent is added to a lyophilized formulation by reconstituting the formulation by adding a diluent having a thickening agent dissolved in it.
(I) Also comprises a gelling agent to increase the viscosity to 0.1-10000 cps at room temperature.

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred KGF: The KGF-2 polypeptide, preferably KGF-2 DELTA 33 with and/or without a N terminal methionine, is present in concentrations of 0.5-30 (preferably 0.2-4) mg/ml (w/v) or 0.1-10 mg/ml. Alternatively, the KGF-2 polypeptide comprises N-terminal deletions of Ala (63)--Ser(208) (KGF-2DELTA28) and Ser (69)--Ser (208) (KGF-2DELTA33).
The KGF-2 polypeptide preferably is a N-terminal or C-terminal deletion mutant comprising Ala (39)--Ser (208); Pro (47)--Ser (208); Val (77)--Ser (208); Glu (93)--Ser (208); Glu (104)--Ser (208); Val (122)-Ser (208); Gly (138)--Ser (208); Met (1) Thr (36) or Cys (37)--Lys (153). (I) Also

[illegible]. Alternatively, it is a high molecular weight polymer such as vinyl polymer, polyoxyethylene polyoxypropylene (preferably block copolymer, polysaccharide, protein, polyethylene oxide, acrylamide

polymer is polyacrylic acid, polymethacrylic acid, polyvinyl pyrrolidone polyvinyl alcohol, or their salts and ester. The polysaccharide is a cellulose **derivative**, a **glycosaminoglycan** (hyaluronic acid, chondroitin, chondroitin-4-sulfate, heparan sulfate, **heparin** or their salts and esters), agar, pectin, alginic acid, dextran, alpha-amylose, amylopectin, **chitosan**, or salts esters of the above mentioned compounds. The **glycosaminoglycan** is present in combination with collagen, gelatin or fibronectin. 10-60 (preferably 18%) weight% of polyoxyethylene-polyoxypropylene block copolymer having a molecular weight of 500-50000 (preferably 1000-15000) is present in the composition.

L20 ANSWER 15 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-465985 [40] WPIDS
DNN N2000-347797 DNC C2000-140380
TI Non-viral nucleic acid delivery complex for delivering a nucleic acid molecule into a cell comprises a modular polypeptide.
DC B04 D16 S03
IN HEINTZ, N H; HOUCHENS, C R
PA (UYVE-N) UNIV VERMONT & STATE AGRIC COLLEGE
CYC 31
PI WO 2000040723 A2 20000713 (200040)* EN 115p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA JP
AU 2000024059 A 20000724 (200052)
ADT WO 2000040723 A2 WO 2000-US212 20000104; AU 2000024059 A AU 2000-24059 20000104
FDT AU 2000024059 A Based on WO 200040723
PRAI US 1999-114745P 19990104; US 1999-114743P 19990104
AB WO 200040723 A UPAB: 20000823
NOVELTY - Non-viral nucleic acid delivery complex (I) comprising a modular polypeptide, is new.

DETAILED DESCRIPTION - A non-viral nucleic acid delivery complex (I) comprises a modular peptide containing a nucleic acid binding domain and a nucleic acid condensation domain that bind with and condense a nucleic acid molecule of more than 50 kilobases in length. (I) also comprises one or more polypeptides selected from the group of; a cell recognition domain, a protein transduction domain, a protein degradation domain, an intracellular targeting domain, a protein interaction domain, an epitope domain and a protein purification domain.

INDEPENDENT CLAIMS are also included for the following:

(1) a method of delivering to a cell a non viral nucleic acid encoding one or more polypeptides comprising delivering to the cell in a nucleic acid delivery complex a non-viral nucleic acid (II) comprising 2 or more native regulatory and structural nucleic acid elements for at least one of the following encoded polypeptides: locus control regions, 5' and 3' flanking sequences, introns, promoters, enhancers or encoding sequences;

(2) an isolated nucleic acid molecule (III) comprising:

(a) nucleic acid molecules which hybridize under stringent conditions

[illegible]

(c) nucleic acid molecules that differ from the nucleic acid [illegible]

genetic code; and

(d) complements of (a), (b) or (c);

(3) an isolated nucleic acid molecule (VIII) which is:

(a) a unique fragment of (IV) which includes a sequence of contiguous nucleotides not identical to any sequence with the database accession numbers given in the table in the specification, or their complements or fragments; and

(b) complements of (a);

(4) an expression vector comprising (III) or (VIII) operably linked to a promoter;

(5) a host cell transformed or transfected with the expression vector of (4);

(6) an isolated polypeptide (IX) encoded by (III) which has RIP60 activity;

(7) an isolated peptide (X) comprising a fragment of (IX) of sufficient length to represent a sequence unique within the human genome and identify a peptide with RIP60 activity;

(8) a composition comprising an isolated agent that binds selectively to a polypeptide comprising RIP60 sequences (XI) 567 amino acids (aa), (XII) 126 aa, (XIII) 59 aa and (XIV) 147 aa or a fragment of (XI), (XII), (XIII) or (XIV); and

(9) a method for determining a level of RIP60 expression in a sample comprising measuring a test level of RIP60 expression in a test sample and comparing the test level of RIP60 expression to a control.

USE - (I) is used to deliver a nucleic acid to a cell (claimed). The nucleic acids delivered are of various sizes and preferably greater than 50 kilobases, especially more than 100 or more than 200 kilobases in length (claimed).

Dwg.0/6

TECH UPTX: 20000823

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Complex: The modular peptide of (I) comprises two or more and preferably all the polypeptide domains from the group. The modular polypeptide is complexed with a nucleic acid. The nucleic acid binding domain recognizes and binds a nucleic acid in a sequence independent manner by interacting with an ATT-rich sequence of nucleic acid. The nucleic acid binding domain is a zinc finger domain, basic helix-loop-helix domain, homeodomain or a native or modified antibody or antibody fragment. The nucleic acid binding domain and the nucleic acid condensation domain are the X2 domain of the human zinc finger protein RIP60.

The nucleic acid is an antisense nucleic acid, DNA molecule, RNA molecule, DNA/RNA hybrid molecule, unmodified fragment of chromosomal DNA, a bacterial artificial chromosome (BAC), yeast artificial chromosome (YAC), single stranded or double stranded.

The nucleic acid condensation domain is a multimerization domain, a zinc finger domain, homeodomain, paired **amphipathic** helices domain or a proline-rich domain. The proline-rich domain is the proline rich region of a human zinc finger protein RIP60. The nucleic acid condensation domain comprises a phosphorylation site.

The cell recognition domain binds to a cell surface receptor.

The protein interaction domain associates with a signal transduction molecule, a carbohydrate expressing polypeptide, a hormone, a hormone

proline rich domain, preferably the proline rich region of a human zinc finger protein RIP60.
The epitope domain is a hemaglutinnin tag, a FLAG tag, a V5 tag, a myc tag or a T7 tag.
The protein purification domain is a glutathione-S-transferase (GST) sequence tag, a hexahistidine tag, a polyhistidine tag, a Protein A tag, a biotin tag, a **chitin** tag or a maltose binding tag.
Preferred Nucleic Acid: (II) contains 3, 4, 5, 6 or more native regulatory and structural nucleic acid elements and is 50 or more kilobases long.
(II) is delivered to the cell using (I).
(VIII) is at least 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 50, 75, 100 or 200 nucleotides long and encodes a peptide of a fragment of the RIP60 polypeptide of 567 aa.
Preferred Cell: The cell is a eukaryotic cell, an animal cell, a human cell, an insect cell, a plant cell, a mouse cell, a Drosophila cell or a prokaryotic cell. The cell is in a suspension, a tissue or tissue fragment, an organ or organ fragment in vitro or in vivo. The cell is **derived** from a subject with one or more genetic mutations. The nucleic acid is delivered to the cell by passive or active transport.
Preferred Polypeptide: (IX) has the defined RIP60 sequence of 567 aa or the sequence of 126 aa, 59 aa or 147 aa given in the specification.
Preferred Peptide: (X) is immunogenic and comprises 6, 8, 9, 10, 11, 12, 14, 16, 18 or 20 contiguous aa of (IX).
Preferred Composition: The isolated agent is a peptide, an antibody (humanized or chimeric) or antibody fragment. The isolated agent is conjugated to a detectable label which is a radioactive label, an enzyme, a biotin molecule, an avidin molecule or a fluorchrome.
Preferred Detection: The RIP60 expression is mRNA expression measured by polymerase chain reaction or Northern blotting or RIP60 polypeptide expression measured using monoclonal or polyclonal antisera to RIP60.

L20 ANSWER 16 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-376501 [32] WPIDS
DNC C2000-113903
TI New functional **chitosan derivative** containing e.g. saccharide with wound healing and antithrombogenic activity, useful in **health** care products.
DC A11 **A96** B04 D21 **D22**
IN ICHIHARA, M; ONO, K; SAEKI, S; SAITO, Y; YURA, H
PA (NETE-N) NETECH INC
CYC 24
PI WO 2000027889 A1 20000518 (200032)* JA 51p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU CA JP US
AU 2000010786 A 20000529 (200041)
EP 1152013 A1 20011107 (200168) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
JP 2000581066 X 20020212 (200227)
AU 755683 B 20021219 (200312)
ADT WO 2000027889 A1 WO 1999 JP6197 19991108; AU 2000010786 A AU 2000-10786
[illegible]
PRAI JP 1998 319209 19981110
[illegible]

NOVELTY - Functional **chitosan derivative** comprises:

(i) chitan or **chitosan** which has at least one of the amino groups in the glycosamine chain **deacetylated**; and

(ii) contains a partially reduced saccharide, a **photoreactive** functional group, an **amphipathic** group and/or a **glycosaminoglycan**; and/or the 3 and/or 6 position of the glycosamine or acetylglycosamine is replaced by an **amphipathic** group.

ACTIVITY - Vulnerary; Anticoagulant; Thrombolytic.

USE - Functional **chitosan derivative** is soluble in a neutral medium, is self cross-linking, can hold a lot of water and has wound healing and antithrombogenic properties. The **derivative** can thus be used in **health** care materials such as **medical** products and cosmetics.

Dwg.0/7

TECH UPTX: 20000706

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Materials: At least 40% of the chitan/**chitosan** is **deacetylated**. The chitan/**chitosan** contains 0.1-80 % saccharide (preferably disaccharide) or **photoreactive** functional group (preferably carbonylazido, sulfonylazido or aromatic azido) or 5-70% **amphipathic** group (preferably a non-ionic group, especially polyoxyalkylene alkyl ether). The **glycosaminoglycan** is **heparin**.

L20 ANSWER 17 OF 26 WPIDS (C) 2003 THOMSON DERWENT

AN 2000-284193 [25] WPIDS

DNC C2000-085898

TI Association of active agent with colloidal polymer, preferably new polymeric branched polyol ester, useful for controlled transmucosal administration of e.g. peptide, DNA construct or vaccine.

DC **A96** B04 B07 D16

IN BREITENBACH, A; JUNG, T; KAMM, W; KISSEL, T

PA (BREI-I) BREITENBACH A; (JUNG-I) JUNG T; (KAMM-I) KAMM W; (KISS-I) KISSEL T

CYC 1

PI DE 19839515 A1 20000309 (200025)* 39p

ADT DE 19839515 A1 DE 1998-19839515 19980829

PRAI DE 1998-19839515 19980829

AB DE 19839515 A UPAB: 20000524

NOVELTY - A pharmaceutical composition contains at least one colloidal polymer-active agent association (A).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for novel polymers (I) which are branched polyol esters consisting of a central molecule (II) to which short-chain, biodegradable hydroxycarboxylic acid ester groups (III) are attached. The reaction parameters (i.e. natural and amount of (II) and catalyst system, nature and length of (III), reaction temperature and reaction time) are selected to optimize (I) for use as the polymer component of (A).

ACTIVITY - Cytostatic; antiinflammatory; antibiotic; vaccine.

MECHANISM OF ACTION - [illegible]

[illegible]

ADVANTAGE - Administration in the form of (A) improves the stability, bioavailability, biodistribution, activity and/or resorption of the active

conditions which cause no degradation of unstable active agents. The polymers can be associated with most macromolecular active agents without causing degradation; can provide controlled and targeted release; can be prepared in a small number of steps; are biocompatible, biodegradable and non-toxic to surrounding tissue; have long dwell time on mucosal surfaces to cause enrichment of active agents at mucosal surfaces; may increase cellular uptake; and may induce an immune response when use with an immunizing antigen or DNA construct.
Dwg.0/22

TECH UPTX: 20000524

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: The association is a polymer-active agent complex, typically formed spontaneously in situ by combining an aqueous solution containing the polymer with a component containing the active agent (optionally in chemically bonded or physically associated form). Alternatively the polymeric carrier is converted into colloidal form by controlled precipitation, in which case the active agent is adsorbed on the polymer colloid (formed previously or in situ), enclosed in the polymer matrix in situ during particle formation or bonded covalently to at least one functional group on the polymer or the particle surface. The colloidal particle size is less than 1 mm, especially 10-10000 nm.
TECHNOLOGY FOCUS - POLYMERS - Preferred Central Molecules: (II) are optionally modified polyols, specifically: (i) linear synthetic polymers containing 7-500 OH groups, especially polyvinyl alcohol having a polymerization degree of 7-500 and a saponification degree of 70-89% or a copolymer of vinyl alcohol with vinyl acetate, -pyrrolidone, -amine, -imidazole, -pyridine, -sulfonic acid or -phosphoric acid; or (ii) linear, branched or cyclic, charged or uncharged polysaccharides, preferably starch (or its components), glycogen, cellulose (or its components), dextran, tunicin, inulin, **chitin**, alginate, pectin, mannan, galactan, xylan, other polyoses, chondroitin sulfate, **heparin**, hyaluronic acid, other **glycosaminoglycans**, murein, dextrin, cyclodextrin, **chitosan** or their partially hydrophobicized **derivatives** (preferably methyl or ethyl ethers, esters or urethanes). (II) optionally contain carboxy, sulfobutyl, sulfopropyl, butylamine, propylamine and/or ethylamine groups.
Preferred Side-Chains: (III) are **derived** from D- or L-lactic and/or glycolic acid or from D-, L- or D,L-lactide and/or glycolide.
Preferred Polymers: (I) may prepared using (II) in the form of a halide or alkali metal salt, preferably the sodium or chloride salt. (III) may be introduced to give water-soluble (I) (specifically at polyol OH group to acid repeating unit molar ratio of 0.6-6 : 1 (preferably 1-3 : 1)), in which case (I) preferably shows a minimum critical dissolution temperature in the range 0-100degreesC in aqueous solution. Alternatively (III) may be introduced to give (I) which are insoluble in water but soluble in non-toxic organic solvents (i.e. esters, ethers, alcohols or ketones (especially acetone, ethyl acetate or ethanol) or their mixtures with water), specifically using chains (III) each having 1-100 (preferably 1-50) hydroxycarboxylic acid repeating units.

A96
IN [illegible]
PA HUMA N: HUMAN GENOME SCI INC

PI WO 9932135 A1 19990701 (199935)* EN 86p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
AU 9919057 A 19990712 (199950)
EP 1041996 A1 20001011 (200052) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
CN 1283997 A 20010214 (200130)
US 6238888 B1 20010529 (200132)
KR 2001033484 A 20010425 (200164)
MX 2000006154 A1 20010301 (200170)
JP 2001526239 W 20011218 (200203) 91p
US 2002016295 A1 20020207 (200213)
NZ 505324 A 20021122 (200301)

ADT WO 9932135 A1 WO 1998-US26085 19981222; AU 9919057 A AU 1999-19057 19981222; EP 1041996 A1 EP 1998-963812 19981222, WO 1998-US26085 19981222; CN 1283997 A CN 1998-813339 19981222; US 6238888 B1 Provisional US 1997-68493P 19971222, US 1998-218444 19981222; KR 2001033484 A KR 2000-706985 20000622; MX 2000006154 A1 MX 2000-6154 20000621; JP 2001526239 W WO 1998-US26085 19981222, JP 2000-525136 19981222; US 2002016295 A1 Provisional US 1997-68493P 19971222, Cont of US 1998-218444 19981222, US 2001-853666 20010514; NZ 505324 A NZ 1998-505324 19981222, WO 1998-US26085 19981222

FDT AU 9919057 A Based on WO 9932135; EP 1041996 A1 Based on WO 9932135; JP 2001526239 W Based on WO 9932135; US 2002016295 A1 Cont of US 6238888; NZ 505324 A Div in NZ 521590, Based on WO 9932135

PRAI US 1997-68493P 19971222; US 1998-218444 19981223; US 2001-853666 20010514

AB WO 9932135 A UPAB: 20011203
NOVELTY - Compositions containing keratinocyte growth factor-2 prepared as ligand, lyophilized or gel formulations, used for treating e.g. wound, psoriasis, inflammatory bowel disease, ulcers or diabetes are new.

DETAILED DESCRIPTION - (A) A novel pharmaceutical composition comprises:

(1) 0.02 to 40 mg/ml of a keratinocyte growth factor-2 (KGF-2) polypeptide;

(2) a buffer of pH 5.0 to 8.0 at a concentration of 5-50 mM; and

(3) a diluent to bring the composition to a designated volume; or a reaction product of these.

INDEPENDENT CLAIMS are also included for the following:

(.) a pharmaceutical composition comprising:

(a) as in (Aa)-(Ac); and

(b) (b) a bulking agent; or a reaction product of these;

(2) a pharmaceutical composition comprising:

(i) a 0.02 to 40 mg/ml of KGF-2 polypeptide;

(ii) 5-20 mM of citric acid or a salt;

(iii) 0.01-125 mM of NaCl;

[illegible]:

(a) a therapeutically effective amount of a KGF [illegible] polypeptide;

(b) [illegible] mM sodium [illegible];

(c) 0.01-150 mM NaCl;
(d) 1 mM EDTA;
(e) 0.01-7% sucrose;
(f) 0.75-1.5% (w/w) carboxymethyl cellulose or 0.5-1.5% hydroxypropyl methyl cellulose or 0.25-0.75% hydroxyethyl cellulose or 0-1% carbomer or any combination;
(4) a KGF-2 gel formulation of pH 6.2 comprising:
(a) as in (3a)-(3d);
(b) 0.1-7% sucrose;
(c) 4-18% Pluronic F127 (RTM);
(5) a KGF-2 gel formulation comprising:
(a) 0.01 to 10 mg/ml of a KGF-2 polypeptide;
(b) 5 to 20 mM of sodium citrate;
(c) 10 to 25% (w/v) Pluronic 127 (RTM) or Poloxamer 407 (RTM) and water.

USE - The compositions can be used to stimulate epithelial cell proliferation and basal keratinocytes for the purpose of wound healing, and to stimulate hair follicle production and healing of dermal wounds. The compositions can also be used to stimulate differentiation of cells, e.g. muscle cells, cells which make up nervous tissue, prostate cells and lung cells. They can be used to stimulate wound healing of wounds including surgical wounds, excisional wounds, deep wounds involving damage of the dermis and epidermis, eye tissue wounds, dental tissue wounds, oral cavity wounds, diabetic ulcers, dermal ulcers, cubitus ulcers, arterial ulcers, venous stasis ulcers, and burns resulting from heat exposure to extreme temperatures of heat or cold, or exposure to chemicals, in normal individuals and those subject to conditions which induce abnormal wound healing such as uremia, malnutrition, vitamin deficiencies, obesity, infection, immunosuppression and complications associated with systemic treatment with steroids, radiation therapy, and antineoplastic drugs and antimetabolites. The compositions are also useful for promoting the healing of wounds associated with ischemia and ischemia and ischemic injury, e.g. chronic venous leg ulcers caused by an impairment of venous circulatory system return and/or insufficiency; for promoting dermal reestablishment subsequent to dermal loss, increasing the tensile strength of epidermis and epidermal thickness, and increasing the adherence of skin grafts to a wound bed and to stimulate re-epithelialization from the wound bed, to stimulate epithelial cell proliferation and basal keratinocytes for treating burns and skin defects such as psoriasis and epidermolysis bullosa, to increase the adherence of skin grafts to a wound bed and to stimulate re-epithelialization from the wound bed, to reduce the side effects of gut toxicity that result from radiation, chemotherapy treatments or viral infections, to treat diseases and conditions of the liver, lung, kidney, breast, pancreas, stomach, small intestine, and large intestine, to treat inflammatory bowel diseases, diabetes, thrombocytopenia, hypofibrinogenemia, hypoalbuminemia, hypoglobulinemia, hemorrhagic cystitis, xerostomia, keratoconjunctivitis sicca, to stimulate the epithelial cells of the salivary glands, lacrimal glands and stimulating re-epithelialization of the sinuses and the growth of nasal mucosa.

compositions may also contain e.g. glycerol, methionine, ascorbic acid or monothioglycerol. The buffer may comprise e.g. phosphonic, acetic, aconitic, citric, glutaric, malic, succinic or carbonic acid, or an alkali or alkaline earth salt.

TECHNOLOGY FOCUS - POLYMERS - Preferred Composition: The compositions may contain a thickening agent, e.g. a water soluble etherified cellulose or a high molecular weight polymer of acrylic acid cross-linked with allylsucrose or an allyl ether of pentarythritol. The etherified cellulose may be e.g. methyl cellulose, hydroxyethyl cellulose, hydroxy propyl cellulose, hydroxy propyl methylcellulose or carboxymethyl cellulose. The compositions may comprise a gel forming agent, e.g. a high molecular weight polymer e.g. vinyl polymer (e.g. polyacrylic acid, polymethacrylic acid, polyvinyl pyrrolidone, polyvinyl alcohol and salts and esters), polyoxyethylene-polyoxypropylene copolymer, polysaccharide (e.g. a cellulose **derivative**, a **glycosaminoglycan** e.g. hyaluronic acid, chondroitin, chondroitin-4-sulfate, heparan sulfate, **heparin**, salts and esters,) **glycosaminoglycan** in combinations with collagen, gelatin or fibronectin; agar, pectin, alginic acid, dextran, alpha-amylose, amylopectin, **chitosan**, and salts and esters, protein, poly(ethylene oxide), acrylamide polymer (e.g. a polyacrylamide or a polymethacrylamide) or a salt.

L20 ANSWER 19 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1999-226198 [19] WPIDS
DNC C1999-066532
TI New **amphipathic chitosan derivative** - is prepared by introducing sugar to phosphatidyl group.
DC A96 B04 D21
PA (NOEV-N) NOEVIR KK
CYC 1
PI JP 11060606 A 19990302 (199919)* 11p
ADT JP 11060606 A JP 1997-227406 19970807
PRAI JP 1997-227406 19970807
AB JP 11060606 A UPAB: 19990518
An **amphipathic chitosan derivative** of formula (I) is new: R1, R2 = H or at least 10 alkyl or alkenyl; and X = reducing sugar or a reducing sugar containing a lysophosphatidyl group; with the proviso that R1 and R2 are not H at the same time.
ADVANTAGE - The new **amphipathic chitosan derivatives** can be used as a dispersion stabilizer and an emulsifier in an external skin agent and is safe and can be expected for antibacterial activity and moisture retention.
Dwg.0/0

L20 ANSWER 20 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1999-226197 [19] WPIDS
DNC C1999-066531
TI New **amphipathic chitosan derivatives** - and external skin agents containing at least one **amphipathic**

[illegible]

An **amphipathic chitosan derivative** of formula (I) prepared by introducing at least one reducing sugar via a hydrophobic group and at least one reducing sugar to the amino group of **chitosan** or a partly **deacetylated chitin**, is new:

ADVANTAGE - The new **amphipathic chitosan derivatives** can be used as a dispersion stabilizer and an emulsifier in an external skin agent and is safe and can be expected for antibacterial activity and moisture retention.

Dwg.0/0

L20 ANSWER 21 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1998-433668 [37] WPIDS
DNC C1998-131045
TI Preparation of **amphipathic chitosan derivative** - is useful in external skin medicine.
DC B04 D21
PA (NOEV-N) NOEVIR KK
CYC 1
PI JP 10182332 A 19980707 (199837)* 11p
ADT JP 10182332 A JP 1996-354854 19961220
PRAI JP 1996-354854 19961220
AB JP 10182332 A UPAB: 19980916
Preparation of an **amphipatic chitosan derivative** (I) comprises introducing an N-acylaminosaccharide of formula (II) to the amine group: (II) RCO-NH-X-NH)n-Y

R = 2-22C alkyl or alkenyl; X = saccharide; Y = **chitosan** or partly **deacetylated chitin**; and n at least 1.

ADVANTAGE - The new **amphipathic chitosan derivative** is safe and excellent in antibacterial and moisture retaining ability.

Dwg.0/0

L20 ANSWER 22 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1998-328479 [29] WPIDS
DNN N1998-257117 DNC C1998-101244
TI New synthetic amino sugar derivative used for **medical** and cosmetic materials - comprises other sugar joined to amino group of part of amino sugar of polysaccharide and/or oligo sugar containing amino sugar.
DC B04 D21 P34
PA (NETE-N) NETEKKU KK; (YAES-N) YAESU SUISAN KAGAKU KOGYO KK
CYC 1
PI JP 10120705 A 19980512 (199829)* 8p
ADT JP 10120705 A JP 1996-272604 19961015
PRAI JP 1996-272604 19961015
AB JP 10120705 A UPAB: 19980722
Synthetic amino **sugar** derivative comprises at least 1 other **sugar** joined to an amino group of at least part of an amino sugar of polysaccharide and/or oligo sugar

polysaccharide polysaccharide chitin

and the oligo **sugar** is **chitosan** or oligo **sugar** formed by **deacetylation** of N-acetyl group of **chitin** by the treatment with alkali. The other **sugar** is lactose, melibiose lactose

glucose, **maltose, laminaribiose, cellobiose, mannobiose**, digalactosamine and/or diglucosamine. Joining of the terminal group and the amino group is carried out by using a coupling agent containing at least 1 water soluble carbodiimide.

USE - The synthetic amino **sugar** derivative is useful for **medical** material or cosmetic material.

ADVANTAGE - Various characteristics such as biological activity or high solubility can be imparted to the synthetic amino **sugar** derivative by selecting the kind of other **sugar** to be introduced.

Dwg.0/4

L20 ANSWER 23 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1996-350153 [35] WPIDS
DNC C1996-110557
TI Bio activity promoter for improving **health** - comprises material having high level of nucleic acid and chitosan.
DC B04
PA (NISH-N) NIPPON SHOKUSEI KK
CYC 1
PI JP 08165246 A 19960625 (199635)* 3p
ADT JP 08165246 A JP 1994-331687 19941210
PRAI JP 1994-331687 19941210
AB JP 08165246 A UPAB: 19960905

Bioactivity promoter comprises material having a high level of nucleic acid and chitosan.

Also claimed are capsules comprising the bioactivity promoter sealed in water soluble capsules.

At least one of anhydrous **lactose**, corn starch, phosphoric acid gp., and cane **sugar** gp. is pref. contained in a form of tablets. Chitosan is dissolved and form a jelly when incorporated into a body, and absorbs cholesterol. The material having a high level of nucleic acid are e.g. lump of spermatozoon of salmon or swellfish, dried sea slug or beer yeast. The chitosan is alkali treated chitin contained in crab or shrimps.

USE/ADVANTAGE - The bioactivity promoter improves **health**. The absorption of cholesterol in the intestine is efficiently prevented. Arteriosclerosis is prevented.

In an example, powdery spermatozoon of salmon (120.0 mg/tablet), purified nucleic acid powder **derived** from beer yeast (27.0), **chitosan** powder (40.05), anhydrous, lactic acid (60.0), corn starch (36.45), tribasic calcium phosphate (7.5) and cane **sugar** fatty acid ester (9.0) were mixed to give bioactivity promoter (300.0 mg/tablet), which was sealed in water soluble capsule to give bioactivity promoter capsule.

Dwg.0/0

L20 ANSWER 24 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1995-037965 [06] WPIDS
DNN N1995-030027 DNC C1995-017031

A96 D22
IN [illegible]
PA (CIBA) CIBA GEIGY AG; (NOVS) NOVARTIS AG; (CIBA) CIBA GEIGY CORP

PI EP 632329 A1 19950104 (199506)* DE 44p
R: AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE
NO 9402495 A 19950103 (199510)
CZ 9401610 A3 19950118 (199511)
FI 9403129 A 19950103 (199513)
CA 2127200 A 19950103 (199514)
AU 9466039 A 19950223 (199515)
ZA 9404758 A 19950329 (199519) 8p
JP 07089925 A 19950404 (199522) 35p
HU 69305 T 19950928 (199545)
NZ 260892 A 19960227 (199614)
US 5527925 A 19960618 (199630) 18p
US 5612389 A 19970318 (199717) 19p
US 5612391 A 19970318 (199717) 19p
US 5621018 A 19970415 (199721) 19p
CN 1102825 A 19950524 (199726)
AU 683256 B 19971106 (199803)
EP 632329 B1 19971203 (199802) DE 51p
R: AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE
DE 59404708 G 19980115 (199808)
NO 302026 B1 19980112 (199809)
ES 2109647 T3 19980116 (199810)
TW 328535 A 19980321 (199833)
IL 110171 A 19990411 (199929)
MX 191239 B 19990215 (200055)
HU 219502 B 20010428 (200131)

ADT EP 632329 A1 EP 1994-810380 19940624; NO 9402495 A NO 1994-2495 19940701; CZ 9401610 A3 CZ 1994-1610 19940701; FI 9403129 A FI 1994-3129 19940629; CA 2127200 A CA 1994-2127200 19940630; AU 9466039 A AU 1994-66039 19940628; ZA 9404758 A ZA 1994-4758 19940701; JP 07089925 A JP 1994-151087 19940701; HU 69305 T HU 1994-2005 19940701; NZ 260892 A NZ 1994-260892 19940630; US 5527925 A US 1994-265597 19940624; US 5612389 A Div ex US 1994-265597 19940624, US 1995-465993 19950606; US 5612391 A Div ex US 1994-265597 19940624, US 1995-469399 19950606; US 5621018 A Div ex US 1994-265597 19940624, US 1995-469410 19950606; CN 1102825 A CN 1994-108127 19940701; AU 683256 B AU 1994-66039 19940628; EP 632329 B1 EP 1994-810380 19940624; DE 59404708 G DE 1994-504708 19940624, EP 1994-810380 19940624; NO 302026 B1 NO 1994-2495 19940701; ES 2109647 T3 EP 1994-810380 19940624; TW 328535 A TW 1994-105782 19940617; IL 110171 A IL 1994-110171 19940630; MX 191239 B MX 1994-4974 19940630; HU 219502 B HU 1994-2005 19940701

FDT US 5612389 A Div ex US 5527925; US 5612391 A Div ex US 5527925; US 5621018 A Div ex US 5527925; AU 683256 B Previous Publ. AU 9466039; DE 59404708 G Based on EP 632329; NO 302026 B1 Previous Publ. NO 9402495; ES 2109647 T3 Based on EP 632329; HU 219502 B Previous Publ. HU 69305

PRAI CH 1993-2006 19930702

AB EP 632329 A UPAB: 19970612
New acetophenone derivs. (IA) and (IB), in which OH gps. are functionalised with organic diisocyanates are of formula (I):
OCN-T1-NH-C(O)-Y-R3-(Y2)n-T2 (I); In (IA): T1 = R4; T2 = -Phe-C(O)-O-(Y1)n-R3; In (IB): T1 = R5; T2 = [illegible]

[illegible] by alkylene, [illegible], [illegible] chain; R4 = branched 3-18C alkylene; or a 6-10C arylene, 7-15C aralkylene,

cycloalkylene)-CyH2y- R5 = R4 or linear 3-18C alkylene; R6 = 1-6C alkyl; x = 3, 4 or 5; y = 1-6; Ra, Rb = H, 1-8C alkyl, 3-8C cycloalkyl, benzyl, or phenyl; n = 0 if R2 = H; in (IA), at most two Y1 = O, in the -(Y1)n gps. and n = 0 in the other -(Y1)n- gps. in (IB), at most one Y1 = O in the -(Y1)n- gps. and n = 0 in the other -(Y1)n- gps. n = 0 in the -(Y2)n- gps. if R3 = a direct bond.

Also claimed are: (a) oligomers/polymers (III) with gps. of the formula: -C(O)NH-T1-Y-R3-(Y2)n-T2 replacing H in OH or NH gps. attached to the chain, opt. by bringing gps. or in -NH- gps. in the chain; and (b) new (meth)acrylyl cpds. of formula (IV): R30-C(O)NH-T1-NHC(O)-Y-R3-(Y2)n-T2 (IV); R30 = CH2=CR31-C(O)-X5-R32-X6-; R31 = H or Me; R32 = 2-12C alkylene; X5, X6 = -O- or -NH-.

USE - (I), (III), and (IV) are used as initiator in radiation-sensitive compsns. (V) contg. ethylenically unsatd. photopolymerisable or photocurable cpd(s). (VI); and in a process for surface modification of an inorg. or organic substrate with H-active HO, HS, HN-(1-6C alkyl) or NH2 gps. (claimed).

The surface-modified materials pref. transparent organic opthalmic mouldings, esp. contact lenses in which (I) is firmly bound to the surface by O or S atoms, or N-(1-6C alkyl) or -NH gps. as photoinitiator; polymers (VII) obtd. by photopolymerisation or photocure of (V); and ophthalmic mouldings, esp. contact lenses made from (VII) are claimed per se. The modified materials are also useful for e.g. artificial blood vessels, prostheses, surgery or diagnostics, since they allow overgrowth of endothelium cells.

ADVANTAGE - (I) are derived from (hydroxy)alkylphenones, which are excellent photoinitiators but often cause discolouration and the formation of toxic low mol. fragments. (I) can be prepd. easily in high purity, have high reactivity and storage stability and are highly effective photoinitiators. They are suitable for biocompatible materials, esp. those used in the biomedical field.

The modified materials esp. contact lenses, are highly wettable (small angle of contact), have high tensile strength and abrasion resistance, are not (significantly) attacked by enzymes, do not cause sepn. of components from tears, have no affinity for cosmetics, volatile chemicals or dust and do not support microorganisms.

Dwg.0/0

L20 ANSWER 25 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1993-117237 [14] WPIDS
DNN N1993-089377 DNC C1993-052044
TI Water soluble biologically active polymer conjugate used for binding glycosaminoglycan(s), e.g., **heparin** to surfaces to provide anti-clotting properties.
DC **A96** B04 **D22** P34
IN FORMGREN, B; LARSSON, R; UHLIN, A; WESTBERG, D
PA (CORL-N) CORLINE SYSTEMS AB
CYC 19
PI WO 9305793 A1 19930401 (199314)* 31p
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL SE

[illegible]
RW: DE FR GB IT

EP 658112 B1 20010711 (200140) EN
R: DE FR GB IT
DE 69231935 E 20010816 (200154)
JP 3398150 B2 20030421 (200308) 12p

ADT WO 9305793 A1 WO 1992-SE672 19920925; AU 9226646 A AU 1992-26646 19920925, WO 1992-SE672 19920925; SE 9102798 A SE 1991-2798 19910926; SE 470006 B SE 1991-2798 19910926; JP 06510783 W WO 1992-SE672 19920925, JP 1993-505995 19920925; EP 658112 A1 EP 1992-920440 19920925, WO 1992-SE672 19920925; US 5529986 A WO 1992-SE672 19920925, US 1994-211224 19940525; EP 658112 B1 EP 1992-920440 19920925, WO 1992-SE672 19920925; DE 69231935 E DE 1992-631935 19920925, EP 1992-920440 19920925, WO 1992-SE672 19920925; JP 3398150 B2 WO 1992-SE672 19920925, JP 1993-505995 19920925

FDT AU 9226646 A Based on WO 9305793; JP 06510783 W Based on WO 9305793; EP 658112 A1 Based on WO 9305793; US 5529986 A Based on WO 9305793; EP 658112 B1 Based on WO 9305793; DE 69231935 E Based on EP 658112, Based on WO 9305793; JP 3398150 B2 Previous Publ. JP 06510783, Based on WO 9305793

PRAI SE 1991-2798 19910926

AB WO 9305793 A UPAB: 19940120
Water soluble biologically active conjugate (BAC), comprises stright-chained organic polymer having a number of functional gps. distributed along the polymer backbone chain, via which gps. at least 20 sulphated **glycosaminoglycans** (GAG) are anchored through convalent bonds in a non-active part of the GAG. Also claimed is prepd. substrate surface comprising a BAC affinity-bound to the surface preferably by electrostatic interaction.

Pref. the polymr is **derived** from natural or synthetic polypeptide, polysaccharide or aliphatic polymer. Specific examples given are polysine, polyornithine, **chitosan**, polyimine, or polyallylamine.

USE/ADVANTAGE - The BAC provides more efficient utilisation of the GAG than the individual substance, is easier to prepare in pure form than proteoglycans, and the compsn. can be varied in controllable way as required. The BAC is used for binding to surface to provide that surface with the desired biological activity. In the case of the GAG **heparin**, this provides anti-clotting activity for extra-corporeal circulation equipment. The surface modification process is simple and can be carried out reproducibly. Application can be to polymeric materials, metals, ceramics, or endogenous tissue. Disadvantages of prior art heparnisation processes e.g. retention of toxic reagents or degredation of **heparin** in procesing, are avoided. Other GAG, in addn. to **heparin**, which can be applied include heparan, determatan, or chondroitin sulphates, or their fragementees
Dwg.0/4

L20 ANSWER 26 OF 26 WPIDS (C) 2003 THOMSON DERWENT
AN 1987-061172 [09] WPIDS
DNC C1987-025632
TI Sustained release drug compsn. using chitin deriv. comprises carboxylalkylated deriv. of chitin, hydrophilic high mol. wt. cpd. and medical

AB JP 62016413 A UPAB: 19930922
Compsn. comprises a carboxyalkylated **deriv.** of a **chitin**, a hydrophilic high mol. wt. cpd. and a **medical** substance.

USE/ADVANTAGE - The compsn. can decrease the dose frequency of the drug.

In an example, 75 pts.wt. of carboxymethyl chitin (I), 12.0 pts.wt. of hydroxypropyl cellulose, 12.5 pts.wt. of indomethacin (II) and 0.5 pts.wt. of Mg stearate (III) are mixed together uniformly to prepare the compsn. and tabletised to 200mg tablet, and dissolution test is made by JP 2nd method using 1st soln. of pH 1.2. A control tablet (1) comprises 43.5 pts.wt. microcrystalline cellulose, 43.5 pts.wt. **lactose**, 12.5 pts.wt. (II) and 0.5 pts.wt. (III). A control tablet (2) comprises 87.0 pts.wt. (I), 12.5 pts.wt. (II) and 0.5 pts.wt. (III).
0/0